

From: [Uhlir, Grayson](#)
To: [SURA, MEHUL](#)
Subject: RE: IDEM OAQ Contact Information for Application No. 089-47845-00732 for Lakeshore Terminal Railroad LLC
Date: Thursday, May 16, 2024 3:50:17 PM
Attachments: [image001.png](#)
[image002.png](#)
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[image879245.png](#)
[image932200.png](#)
[image619231.png](#)
[Lakeshore Terminal Railroad - GSD-15 Submittal.pdf](#)
[Lakeshore Terminal Railroad - Emission Calculations 2024.05.13.xlsx](#)

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Hi Mehul,

Thank you very much!

Please find attached an electronic copy of the emission calculations in excel format. Also, find attached the completed GSD-15 form. Note, I tried contacting Lake County as well as North Township, but the representatives I spoke to were rather confused about my notification and did not know how to direct it. However, I was able to successfully notify the Mayor of East Chicago's office – let me know if this is sufficient. We are still working to notify the adjacent owners/occupants and will provide the completed GSD-14 form soon.

Sincerely,
Grayson

Grayson Uhlir
Project Engineer

 **Weaver Consultants Group**

35 E. Wacker Drive | Suite 1250

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From: SURA, MEHUL <MSURA@idem.IN.gov>

Sent: Thursday, May 16, 2024 9:17 AM

To: Uhlir, Grayson <guhkir@wcgrp.com>

Subject: IDEM OAQ Contact Information for Application No. 089-47845-00732 for Lakeshore Terminal Railroad LLC

CAUTION: This email originated from outside your organization. Exercise caution when opening attachments or clicking links, especially from unknown senders.

Good morning,

I am the permit writer assigned to the current application No. 089-47845-00732 for Lakeshore Terminal Railroad LLC. I would like to extend to you my contact information so that we may have continued communication until your new permit is issued. Please keep this information at hand. It is common for questions to arise, and oftentimes, further clarification is needed during the permit review process.

To expedite the review process, please e-mail me the electronic copy of your calculations (preferably in excel format) used as part of your application.

Based on my preliminary review of the application, please provide the following completed forms:

(1) GSD 14 - Owners and Occupants Notified form.

Please note that within ten (10) working days after submitting an application for a permit, the person that submitted the application for the permit shall make a reasonable effort to provide notice:

- (1) to all owners of land that adjoins the land that is the subject of the permit application; or
- (2) if the owner of land that adjoins the land that is the subject of the permit application does not occupy the land, to all occupants of the land.

(2) GSD-15 – Government Officials Notified

IDEM, OAQ will notify you when a draft permit has been submitted for public notice and/or when a final permit has been issued. As part of the notification, IDEM, OAQ will provide information on how to access the draft and/or final permit electronically on IDEM's website. If Lakeshore Terminal Railroad LLC would prefer to receive paper copies of the entire draft and/or final permit, please let me know prior to the end of the applicant review period. If you prefer to receive paper copies of the entire permit, IDEM, OAQ will mail a paper copy of the draft permit and/or original signed final permit to the source contact. If you do not request to receive paper copies of the entire permit, IDEM, OAQ will only mail a paper copy of the original signed final permit signature page to the source contact.

Please feel free to contact me at any time if you have questions, concerns, or important information regarding your permit. For your convenience, my section chief Madhurima Moulik may be contacted at 317-233-6663 or mmoulik@idem.in.gov.

Thank you in advance for your time and assistance. I look forward to working with you.

Mehul Sura
Environmental Engineer
IDEM, Air Permit Branch

(317) 233-6868 •MSURA@idem.in.gov



www.idem.IN.gov

Scan the QR code to leave your feedback.

We appreciate your input!





**OAQ GENERAL SOURCE DATA APPLICATION
GSD-15: Government Officials Notified**

State Form 51608 (R3 / 1-10)

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

IDEM – Office of Air Quality – Permits Branch
 100 N. Senate Avenue, MC 61-53 Room 1003
 Indianapolis, IN 46204-2251
 Telephone: (317) 233-0178 or
 Toll Free: 1-800-451-6027 x30178 (within Indiana)
 Facsimile Number: (317) 232-6749
www.IN.gov/idem

NOTES:

- The purpose of GSD-15 is to identify local government officials that are to be notified that an air permit application has been submitted.
- Detailed instructions for this form are available on the Air Permit Application Forms website.
- All information submitted to IDEM will be made available to the public unless it is submitted under a claim of confidentiality. Claims of confidentiality must be made at the time the information is submitted to IDEM, and must follow the requirements set out in 326 IAC 17.1-4-1. Failure to follow these requirements exactly will result in your information becoming a public record, available for public inspection.

Government Officials Notified

Use this table to identify local government officials that should be notified pursuant to Indiana Code (IC) 13-15-3-1 that an air permit application has been submitted. If you need additional space, you may make copies of this form.

1. Name: Anthony Copeland		2. Date Notified: 5/16/2024	
3. Title: Mayor			
4. Address: 4527 Indianapolis Blvd			
City: East Chicago		State: IN	ZIP Code: 46312 –
5. Electronic Mail: yorta@eastchicago.com		6. Telephone Number: (219) 391 - 8200	
7. Method of Notification: <input checked="" type="checkbox"/> Telephone <input checked="" type="checkbox"/> Electronic Mail <input type="checkbox"/> Standard Mail <input type="checkbox"/> Other (specify):			
Name:		Date Notified:	
Title:			
Address:			
City:		State:	ZIP Code: –
Electronic Mail:		Telephone Number: () -	
Method of Notification: <input type="checkbox"/> Telephone <input type="checkbox"/> Electronic Mail <input type="checkbox"/> Standard Mail <input type="checkbox"/> Other (specify):			
Name:		Date Notified:	
Title:			
Address:			
City:		State:	ZIP Code: –
Electronic Mail:		Telephone Number: () -	
Method of Notification: <input type="checkbox"/> Telephone <input type="checkbox"/> Electronic Mail <input type="checkbox"/> Standard Mail <input type="checkbox"/> Other (specify):			
Name:		Date Notified:	
Title:			
Address:			
City:		State:	ZIP Code: –
Electronic Mail:		Telephone Number: () -	
Method of Notification: <input type="checkbox"/> Telephone <input type="checkbox"/> Electronic Mail <input type="checkbox"/> Standard Mail <input type="checkbox"/> Other (specify):			

Facility-wide Emissions
Lakeshore Terminal Railroad LLC
East Chicago, IN

Actual Emissions:

Process/Emission Unit	PM		CO		NOx		SO ₂		VOC		Max. Single HAP (tons/yr)	Total HAPs (tons/yr)
	(lbs/hr)	(tons/yr)	(lbs/hr)	(tons/yr)	(lbs/hr)	(tons/yr)	(lbs/hr)	(tons/yr)	(lbs/hr)	(tons/yr)		
Transloading Operation	--	--	--	--	--	--	--	--	1.07	2.23	0.97	0.97
Diesel Dispensing (DFD5) ²	--	--	--	--	--	--	--	--	<i>negligible</i>	<i>negligible</i>	--	--
Boiler 1 (B1)	0.04	0.08	0.41	0.86	0.49	1.02	3.0E-03	0.01	0.03	0.06	0.02	0.02
Boiler 2 (B2)	0.19	0.39	2.07	4.30	2.46	5.12	1.5E-02	0.03	0.14	0.28	0.09	0.10
Two HVAC Units	7.5E-04	1.5E-03	0.01	0.02	0.01	0.02	5.9E-05	1.2E-04	5.4E-04	1.1E-03	3.7E-04	3.8E-04
Five Heaters	0.01	0.02	0.10	0.21	0.12	0.25	7.4E-04	1.5E-03	0.01	0.01	4.6E-03	4.8E-03
Paved Roads (Fugitive)	0.47	2.05	--	--	--	--	--	--	--	--	--	--
Total (Excluding Fugitives):		0.49		5.39		6.42		0.04		2.58	1.09	1.09
Total (Including Fugitives):		2.54		5.39		6.42		0.04		2.58	1.09	1.09

Potential Emissions:

Process/Emission Unit	PM		CO		NOx		SO ₂		VOC		Max. Single HAP (tons/yr)	Total HAPs (tons/yr)
	(lbs/hr)	(tons/yr)	(lbs/hr)	(tons/yr)	(lbs/hr)	(tons/yr)	(lbs/hr)	(tons/yr)	(lbs/hr)	(tons/yr)		
Transloading Operation	--	--	--	--	--	--	--	--	4.08	17.85	7.16	7.16
Diesel Dispensing (DFD5) ²	--	--	--	--	--	--	--	--	<i>negligible</i>	<i>negligible</i>	--	--
Boiler 1 (B1)	0.04	0.16	0.41	1.81	0.49	2.16	2.95E-03	0.01	0.03	0.12	0.04	0.04
Boiler 2 (B2)	0.19	0.82	2.07	9.06	2.46	10.78	0.01	0.06	0.14	0.59	0.19	0.20
Two HVAC Units	7.45E-04	0.00	0.01	0.04	0.01	0.04	5.88E-05	2.58E-04	5.39E-04	0.00	7.73E-04	8.11E-04
Five Heaters	0.01	0.04	0.10	0.45	0.12	0.54	7.35E-04	3.22E-03	0.01	0.03	9.7E-03	0.01
Paved Roads (Fugitive)	0.43	1.88	--	--	--	--	--	--	--	--	--	--
Total (Excluding Fugitives):		1.03		11.35		13.52		0.08		18.60	7.40	7.41
Total (Including Fugitives):		2.90		11.35		13.52		0.08		18.60	7.40	7.41
Registration Thresholds:		5 - 25		25 - 100		10 - 25		10 - 25		10 - 25		
Major Source Thresholds:		100		100		100		100		100	10	25

Footnotes:

1. The potential emissions are below the major source thresholds and are within the registration threshold ranges.
2. The estimated diesel dispensing (DFD5) potential emissions are determined to be negligible (0.01 tons/yr).

Transloading Operation - VOC and HAP Emissions
Lakeshore Terminal Railroad LLC
East Chicago, IN

Parameters:

Maximum Throughput ¹ =	100,000 gal/day
Actual Expected Throughput ¹ =	35,000 gal/day
Fraction Bulk Liquid Commodities ¹ =	0.5
Maximum Annual Operating Hours ² =	8,760 hrs/yr
Expected Actual Annual Operating Hours ³ =	4,160 hrs/yr

Calculations: ⁴

$$E_{TO} = \sum_{x=1}^X \left(\frac{12.46 * S_i * P_i * M_i * G_i}{T_i * \left(1000 \frac{\text{gallons}}{\text{kgal}}\right) * (2000 \text{ lbs/ton})} \right)_x$$

E_{TO} = Total VOC, Total HAP, or Highest Single HAP emissions from the transloading operation (tons/month).

X = Total number of rail tank cars or tanker trailers transloaded in a month.

x = Each rail tank car or tanker trailer transloaded in a month.

12.46 = Factor to convert to units of lb/kgal of liquid loaded.

i = Each specific liquid transloaded in a month.

S_i = Saturation factor for type of liquid loading (AP 42, Table 5.2-1)

P_i = True vapor pressure of liquid loaded (psia) from AP 42, Table 7.1-2 (or other valid source of chemical data)

M_i = Average molecular weight of Total VOC, Total HAP, or Highest Single HAP vapors (lb/lb-mole) emitted from specific liquid loaded (AP 42, Table 7.1-2 or other source of chemical data)

T_i = Temperature of liquid loaded °R (°F + 460)

G_i = Total volume of liquid loaded into each rail tank car or tanker trailer (gallons).

Based on this equation, the loading loss factor (L_L - lb/Kgal) is defined as: $12.46 \times S \times P \times MW / T$

2024 Q1 Data: ⁵

Month	Wt. Avg. P (psia)	Wt. Avg. M (lb/lb-mole)
January	0.177	165.5
February	0.280	223.1
March	0.305	137.2
Maximum:	0.305	223.1

Loading Loss Factor: ⁵

S =	0.6
P =	0.305 psia
M =	223.1 lb/lb-mole
T =	520 R
L _{L,max} =	0.98 lb/Kgal

Emissions (lbs/hr) = Throughput (gal/day) x Liquid Fraction x Loading Loss Factor (lb/Kgal) / 1,000 / Daily Operating Hours (hrs/day)

Emissions (TPY) = Emissions (lbs/hr) / 2,000 (lbs/ton) x Annual Operating Hours (hrs/yr)

Emissions:

Pollutant	Potential Emissions		Actual Emissions		Proposed Potential Emissions ⁷	
	(lbs/hr)	(TPY)	(lbs/hr)	(TPY)	(lbs/hr)	(TPY)
VOC	2.04	8.93	1.07	2.23	4.08	17.85
Max. Single HAP ⁶	0.82	3.58	0.47	0.97	1.63	7.16
Total HAPs ⁶	0.82	3.58	0.47	0.97	1.63	7.16

Notes:

1. The throughput information was provided by the facility.
2. The maximum annual operating hours are assumed to be 8,760 operating hr/yr.
3. The expected actual annual operating hours are assumed to be 4,160 operating hr/yr based on 16 operating hours per day, 5 operating days per week, and 52 operating weeks per year.
4. The transloading VOC and HAPs emissions are calculated using the equation provided in Condition D.1.8(e) of the FESOP Minor Revision No. 089-43729-00469 for Lakeshore Railcar & Tanker Services LLC.
5. The loading loss factor parameters were assumed to be the maximum of the monthly weighted average values based on the materials transloaded in Q1 of the 2024 calendar year (see following pages) by Lakeshore Railcar & Tanker Services LLC.
6. The HAP emissions were calculated using the maximum of the monthly weighted average HAP to VOC ratios based on the materials transloaded in Q1 of the 2024 calendar year (see following pages) by Lakeshore Railcar & Tanker Services LLC.
7. The proposed potential emission calculations incorporate a safety factor of 2 for conservative purposes.

2024 Q1 Transloading Emissions

Data Entry

Month/Date ¹	Permit Substance Name	Permit Substance Category	CAS Number	VOC (Yes/No)	HAPs (Yes/No)	Volume Loaded Per Day (Kgal/day)	Number of Cars (cars/day)	Loading Loss Factor ² (lbs/Kgal)	VOC Content (wt.%)	HAPs Content (wt.%)	VOC Emissions (lbs/day)	HAPs Emissions (lbs/day)	Other Emissions (lbs/day)	Saturation Factor, S (No unit)	True Vapor Pressure, P (psia)	Vapor Molecular Weight, MW (lb/lb mole)	Bulk Liquid Temperature, T (°R)	Weight Averages			
																		True Vapor Pressure, P (psia)	Molecular Weight, MW (lb/lb mole)	HAP to VOM Ratio	
January 2024 ¹ (Based on LSRS Records)																					
1/2/2024	Methanol	List 1 Methanol	67-56-1	Yes	Yes	7.000	2	0.8207	100%	100.00%	5.75	5.75	0.00	0.60	1.78	32.00	520	0.071	1.276	0.040	
1/4/2024	Diesel Fuel, generic (used for Spirdane D15)	List 1 RPP Diesel Fuel	68334-30-5	Yes	Yes	7.039	1	0.0168	100%	1.28%	0.12	1.51E-03	0.00	0.60	0.01	130.00	520	1.80E-04	2.607	0.000	
1/5/2024	Used Oil	List 1 RPP Motor Oil	68553-00-4	Yes	Yes	5.633	1	0.0002	100%	17.00%	9.23E-04	1.57E-04	0.00	0.60	6.00E-05	190.00	520	9.63E-07	3.049	0.003	
1/5/2024	Used Oil	List 1 RPP Motor Oil	68553-00-4	Yes	Yes	7.565	1	0.0002	100%	17.00%	1.24E-03	2.11E-04	0.00	0.60	6.00E-05	190.00	520	1.29E-06	4.094	0.004	
1/5/2024	Used Oil	List 1 RPP Motor Oil	68553-00-4	Yes	Yes	6.670	1	0.0002	100%	17.00%	1.09E-03	1.86E-04	0.00	0.60	6.00E-05	190.00	520	1.14E-06	3.610	0.003	
1/5/2024	Used Oil	List 1 RPP Motor Oil	68553-00-4	Yes	Yes	6.800	1	0.0002	100%	17.00%	1.11E-03	1.89E-04	0.00	0.60	6.00E-05	190.00	520	1.16E-06	3.680	0.003	
1/8/2024	Distillate, generic (used for Distillation Feedstock)	List 1 RPP Distillate	64741-59-9	Yes	Yes	5.500	3	0.0001	100%	17.84%	2.82E-04	5.02E-05	0.00	0.60	4.45E-05	80.00	520	2.09E-06	3.760	0.008	
1/8/2024	Diesel Fuel, generic (used for Spirdane D40)	List 1 Individual	68334-30-5	Yes	Yes	6.506	1	0.0025	100%	100.00%	0.02	0.02	0.00	0.60	1.16E-03	150.00	520	2.15E-05	2.780	0.019	
1/9/2024	Diesel Fuel, generic (used for Spirdane D40)	List 1 Individual	68334-30-5	Yes	Yes	6.940	1	0.0025	100%	100.00%	0.02	0.02	0.00	0.60	1.16E-03	150.00	520	2.29E-05	2.965	0.020	
1/10/2024	Used Oil	List 1 RPP Motor Oil	68553-00-4	Yes	Yes	7.056	1	0.0002	100%	17.00%	1.16E-03	1.97E-04	0.00	0.60	6.00E-05	190.00	520	1.21E-06	3.819	0.003	
1/10/2024	Used Oil	List 1 RPP Motor Oil	68553-00-4	Yes	Yes	6.534	1	0.0002	100%	17.00%	1.07E-03	1.82E-04	0.00	0.60	6.00E-05	190.00	520	1.12E-06	3.536	0.003	
1/10/2024	Used Oil	List 1 RPP Motor Oil	68553-00-4	Yes	Yes	6.300	1	0.0002	100%	17.00%	1.03E-03	1.76E-04	0.00	0.60	6.00E-05	190.00	520	1.08E-06	3.410	0.003	
1/10/2024	Used Oil	List 1 RPP Motor Oil	68553-00-4	Yes	Yes	6.202	1	0.0002	100%	17.00%	1.02E-03	1.73E-04	0.00	0.60	6.00E-05	190.00	520	1.06E-06	3.357	0.003	
1/11/2024	Distillate, generic (used for Distillation Feedstock)	List 1 RPP Distillate	64741-59-9	Yes	Yes	5.500	1	0.0001	100%	17.84%	2.82E-04	5.02E-05	0.00	0.60	4.45E-05	80.00	520	6.97E-07	1.253	0.003	
1/11/2024	Methanol	List 1 Methanol	67-56-1	Yes	Yes	6.900	1	0.8207	100%	100.00%	5.66	5.66	0.00	0.60	1.78	32.00	520	0.035	0.629	0.020	
1/11/2024	Diesel Fuel, generic (used for Spirdane D40)	List 1 Individual	68334-30-5	Yes	Yes	6.913	1	0.0025	100%	100.00%	0.02	0.02	0.00	0.60	1.16E-03	150.00	520	2.28E-05	2.954	0.020	
1/11/2024	Used Oil	List 1 RPP Motor Oil	68553-00-4	Yes	Yes	7.659	1	0.0002	100%	17.00%	1.26E-03	2.13E-04	0.00	0.60	6.00E-05	190.00	520	1.31E-06	4.145	0.004	
1/11/2024	Used Oil	List 1 RPP Motor Oil	68553-00-4	Yes	Yes	5.590	1	0.0002	100%	17.00%	9.16E-04	1.56E-04	0.00	0.60	6.00E-05	190.00	520	9.55E-07	3.025	0.003	
1/11/2024	Used Oil	List 1 RPP Motor Oil	68553-00-4	Yes	Yes	7.851	1	0.0002	100%	17.00%	1.29E-03	2.19E-04	0.00	0.60	6.00E-05	190.00	520	1.34E-06	4.249	0.004	
1/16/2024	Distillate, generic (used for Distillation Feedstock)	List 1 RPP Distillate	64741-59-9	Yes	Yes	5.500	1	0.0001	100%	17.84%	2.82E-04	5.02E-05	0.00	0.60	4.45E-05	80.00	520	6.97E-07	1.253	0.003	
1/16/2024	Diesel Fuel, generic (used for Spirdane D15)	List 1 RPP Diesel Fuel	68334-30-5	Yes	Yes	7.021	1	0.0168	100%	1.28%	0.12	1.51E-03	0.00	0.60	0.01	130.00	520	1.80E-04	2.600	0.000	
1/16/2024	Diesel Fuel, generic (used for Spirdane D40)	List 1 Individual	68334-30-5	Yes	Yes	2.020	1	0.0025	100%	100.00%	0.01	0.01	0.00	0.60	1.16E-03	150.00	520	6.68E-06	0.863	0.006	
1/16/2024	Used Oil	List 1 RPP Motor Oil	68553-00-4	Yes	Yes	6.548	1	0.0002	100%	17.00%	1.07E-03	1.82E-04	0.00	0.60	6.00E-05	190.00	520	1.12E-06	3.544	0.003	
1/17/2024	Diesel Fuel, generic (used for Spirdane D40)	List 1 Individual	68334-30-5	Yes	Yes	4.000	1	0.0025	100%	100.00%	0.01	0.01	0.00	0.60	1.16E-03	150.00	520	1.32E-05	1.709	0.011	
1/17/2024	Used Oil	List 1 RPP Motor Oil	68553-00-4	Yes	Yes	6.800	1	0.0002	100%	17.00%	1.11E-03	1.89E-04	0.00	0.60	6.00E-05	190.00	520	1.16E-06	3.680	0.003	
1/17/2024	Used Oil	List 1 RPP Motor Oil	68553-00-4	Yes	Yes	6.470	1	0.0002	100%	17.00%	1.06E-03	1.80E-04	0.00	0.60	6.00E-05	190.00	520	1.11E-06	3.502	0.003	
1/17/2024	Used Oil	List 1 RPP Motor Oil	68553-00-4	Yes	Yes	5.637	1	0.0002	100%	17.00%	9.24E-04	1.57E-04	0.00	0.60	6.00E-05	190.00	520	9.63E-07	3.051	0.003	
1/17/2024	Used Oil	List 1 RPP Motor Oil	68553-00-4	Yes	Yes	6.548	1	0.0002	100%	17.00%	1.07E-03	1.82E-04	0.00	0.60	6.00E-05	190.00	520	1.12E-06	3.544	0.003	
1/18/2024	Used Oil	List 1 RPP Motor Oil	68553-00-4	Yes	Yes	5.845	1	0.0002	100%	17.00%	9.58E-04	1.63E-04	0.00	0.60	6.00E-05	190.00	520	9.99E-07	3.164	0.003	
1/18/2024	Used Oil	List 1 RPP Motor Oil	68553-00-4	Yes	Yes	6.548	2	0.0002	100%	17.00%	1.07E-03	1.82E-04	0.00	0.60	6.00E-05	190.00	520	2.24E-06	7.088	0.006	
1/18/2024	Used Oil	List 1 RPP Motor Oil	68553-00-4	Yes	Yes	7.909	1	0.0002	100%	17.00%	1.30E-03	2.20E-04	0.00	0.60	6.00E-05	190.00	520	1.35E-06	4.281	0.004	
1/19/2024	Methanol	List 1 Methanol	67-56-1	Yes	Yes	6.787	1	0.8207	100%	100.00%	5.57	5.57	0.00	0.60	1.78	32.00	520	0.034	0.619	0.019	
1/19/2024	Diesel Fuel, generic (used for Spirdane D40)	List 1 Individual	68334-30-5	Yes	Yes	3.076	1	0.0025	100%	100.00%	0.01	0.01	0.00	0.60	1.16E-03	150.00	520	1.02E-05	1.314	0.009	
1/19/2024	Used Oil	List 1 RPP Motor Oil	68553-00-4	Yes	Yes	5.686	1	0.0002	100%	17.00%	9.32E-04	1.58E-04	0.00	0.60	6.00E-05	190.00	520	9.72E-07	3.077	0.003	
1/19/2024	Used Oil	List 1 RPP Motor Oil	68553-00-4	Yes	Yes	7.025	1	0.0002	100%	17.00%	1.15E-03	1.96E-04	0.00	0.60	6.00E-05	190.00	520	1.20E-06	3.802	0.003	
1/19/2024	Used Oil	List 1 RPP Motor Oil	68553-00-4	Yes	Yes	7.909	1	0.0002	100%	17.00%	1.30E-03	2.20E-04	0.00	0.60	6.00E-05	190.00	520	1.35E-06	4.281	0.004	
1/19/2024	Used Oil	List 1 RPP Motor Oil	68553-00-4	Yes	Yes	7.025	1	0.0002	100%	17.00%	1.15E-03	1.96E-04	0.00	0.60	6.00E-05	190.00	520	1.20E-06	3.802	0.003	
1/22/2024	Used Oil	List 1 RPP Motor Oil	68553-00-4	Yes	Yes	8.093	1	0.0002	100%	17.00%	1.33E-03	2.25E-04	0.00	0.60	6.00E-05	190.00	520	1.38E-06	4.380	0.004	
1/22/2024	Used Oil	List 1 RPP Motor Oil	68553-00-4	Yes	Yes	6.800	2	0.0002	100%	17.00%	1.11E-03	1.89E-04	0.00	0.60	6.00E-05	190.00	520	2.32E-06	7.361	0.007	
1/22/2024	Used Oil	List 1 RPP Motor Oil	68553-00-4	Yes	Yes	5.420	1	0.0002	100%	17.00%	8.88E-04	1.51E-04	0.00	0.60	6.00E-05	190.00	520	9.26E-07	2.933	0.003	
1/23/2024	Diesel Fuel, generic (used for Spirdane D40)	List 1 Individual	68334-30-5	Yes	Yes	6.940	1	0.0025	100%	100.00%	0.02	0.02	0.00	0.60	1.16E-03	150.00	520	2.29E-05	2.965	0.020	
1/25/2024	Diesel Fuel, generic (used for Spirdane D40)	List 1 Individual	68334-30-5	Yes	Yes	7.383	1	0.0025	100%	100.00%	0.02	0.02	0.00	0.60	1.16E-03	150.00	520	2.44E-05	3.155	0.021	
1/26/2024	Distillate, generic (used for Distillation Feedstock)	List 1 RPP Distillate	64741-59-9	Yes	Yes	7.073	1	0.0001	100%	17.84%	3.62E-04	6.46E-05	0.00	0.60	4.45E-05	80.00	520	8.97E-07	1.612	0.004	
1/26/2024	Distillate, generic (used for Distillation Feedstock)	List 1 RPP Distillate	64741-59-9	Yes	Yes	7.500	1	0.0001	100%	17.84%	0.00	0.00	0.00	0.60	4.45E-05	80.00	520	9.51E-07	1.709	0.004	
1/26/2024	Methanol	List 1 Methanol	67-56-1	Yes	Yes	7.000	1	0.8207	100%	100.00%	5.75	5.75	0.00	0.60	1.78	32.00	520	0.036	0.638	0.020	
1/29/2024	Distillate, generic (used for Distillation Feedstock)	List 1 RPP Distillate	64741-59-9	Yes	Yes	4.000	1	0.0001	100%	17.84%	2.05E-04	3.65E-05	0.00	0.60	4.45E-05	80.00	520	5.07E-07	0.912	0.002	
1/29/2024	Distillate, generic (used for Distillation Feedstock)	List 1 RPP Distillate	64741-59-9	Yes	Yes	6.100	1	0.0001	100%	17.84%	3.12E-04	5.57E-05	0.00	0.60	4.45E-05	80.00	520	7.73E-07	1.390	0.003	
1/30/2024	EPON Resin 828 (used for Hot Resin Solution)	Non-List 1 Individual	25068-38-6	Yes	No	5.976	1	0.0041	100%	0.00%	0.02	0.00E+00	0.00	0.60	4.35E-04	650.00	520	7.41E-06	11.065	0.000	
1/30/2024	Diesel Fuel, generic (used for Spirdane D40)	List 1 Individual	68334-30-5	Yes	Yes	6.930	1	0.0025	100%	100.00%	0.02	0.02	0.00	0.60	1.16E-03	150.00					

2024 Q1 Transloading Emissions

Data Entry

Month/Date ¹	Permit Substance Name	Permit Substance Category	CAS Number	VOC (Yes/No)	HAPs (Yes/No)	Volume Loaded Per Day (Kgal/day)	Number of Cars (cars/day)	Loading Loss Factor ² (lbs/Kgal)	VOC Content (wt.%)	HAPs Content (wt.%)	VOC Emissions (lbs/day)	HAPs Emissions (lbs/day)	Other Emissions (lbs/day)	Saturation Factor, S (No unit)	True Vapor Pressure, P (psia)	Vapor Molecular Weight, MW (lb/lb mole)	Bulk Liquid Temperature, T (°R)	Weight Averages			
																		True Vapor Pressure, P (psia)	Molecular Weight, MW (lb/lb mole)	HAP to VOM Ratio	
February 2024¹ (Based on LSRs Records)																					
2/1/2024	Methanol	List 1 Methanol	67-56-1	Yes	Yes	7.000	1	0.8207	100%	100.00%	5.75	5.75	0.00	0.60	1.78	32.00	520	0.069	1.242	0.039	
2/1/2024	EPON Resin 828 (used for Hot Resin Solution)	Non-List 1 Individual	25068-38-6	Yes	No	6.184	1	0.0041	100%	0.00%	0.03	0.00E+00	0.00	0.60	4.35E-04	650.00	520	1.49E-05	22.295	0.000	
2/2/2024	EPON Resin 828 (used for Hot Resin Solution)	Non-List 1 Individual	25068-38-6	Yes	No	5.524	1	0.0041	100%	0.00%	0.02	0.00E+00	0.00	0.60	4.35E-04	650.00	520	1.33E-05	19.915	0.000	
2/5/2024	Diesel Fuel, generic (used for Spirdane D40)	List 1 Individual	68334-30-5	Yes	Yes	3.846	1	0.0025	100%	100.00%	0.01	0.01	0.00	0.60	1.16E-03	150.00	520	2.47E-05	3.200	0.021	
2/5/2024	Diesel Fuel, generic (used for Spirdane D40)	List 1 Individual	68334-30-5	Yes	Yes	7.374	1	0.0025	100%	100.00%	0.02	0.02	0.00	0.60	1.16E-03	150.00	520	4.75E-05	6.135	0.041	
2/9/2024	EPON Resin 828 (used for Hot Resin Solution)	Non-List 1 Individual	25068-38-6	Yes	No	5.976	1	0.0041	100%	0.00%	0.02	0.00E+00	0.00	0.60	4.35E-04	650.00	520	1.44E-05	21.545	0.000	
2/9/2024	EPON Resin 828 (used for Hot Resin Solution)	Non-List 1 Individual	25068-38-6	Yes	No	6.184	1	0.0041	100%	0.00%	0.03	0.00E+00	0.00	0.60	4.35E-04	650.00	520	1.49E-05	22.295	0.000	
2/9/2024	Methanol	List 1 Methanol	67-56-1	Yes	Yes	7.000	1	0.8207	100%	100.00%	5.75	5.75	0.00	0.60	1.78	32.00	520	0.069	1.242	0.039	
2/12/2024	EPON Resin 828 (used for Hot Resin Solution)	Non-List 1 Individual	25068-38-6	Yes	No	6.184	1	0.0041	100%	0.00%	0.03	0.00E+00	0.00	0.60	4.35E-04	650.00	520	1.49E-05	22.295	0.000	
2/12/2024	Diesel Fuel, generic (used for Spirdane D40)	List 1 Individual	68334-30-5	Yes	Yes	6.000	1	0.0025	100%	100.00%	0.02	0.02	0.00	0.60	1.16E-03	150.00	520	3.86E-05	4.992	0.033	
2/13/2024	EPON Resin 828 (used for Hot Resin Solution)	Non-List 1 Individual	25068-38-6	Yes	No	4.782	1	0.0041	100%	0.00%	0.02	0.00E+00	0.00	0.60	4.35E-04	650.00	520	1.15E-05	17.240	0.000	
2/13/2024	Diesel Fuel, generic (used for VM & P Max 12)	List 1 RPP Diesel Fuel	68334-30-5	Yes	Yes	7.194	1	0.0168	100%	1.28%	0.12	1.54E-03	0.00	0.60	0.01	130.00	520	3.59E-04	5.187	0.001	
2/14/2024	Distillate, generic (used for Distillation Feedstock)	List 1 RPP Distillate	64741-59-9	Yes	Yes	5.000	1	0.0001	100%	17.84%	2.56E-04	4.57E-05	0.00	0.60	4.45E-05	80.00	520	1.23E-06	2.219	0.005	
2/14/2024	Diesel Fuel, generic (used for Spirdane D15)	List 1 RPP Diesel Fuel	68334-30-5	Yes	Yes	6.800	1	0.0168	100%	1.28%	0.11	1.46E-03	0.00	0.60	0.01	130.00	520	3.39E-04	4.903	0.000	
2/14/2024	Diesel Fuel, generic (used for Spirdane D40)	List 1 Individual	68334-30-5	Yes	Yes	6.937	1	0.0025	100%	100.00%	0.02	0.02	0.00	0.60	1.16E-03	150.00	520	4.46E-05	5.771	0.038	
2/14/2024	Diesel Fuel, generic (used for Spirdane D40)	List 1 Individual	68334-30-5	Yes	Yes	7.402	1	0.0025	100%	100.00%	0.02	0.02	0.00	0.60	1.16E-03	150.00	520	4.76E-05	6.158	0.041	
2/15/2024	Methanol	List 1 Methanol	67-56-1	Yes	Yes	7.000	1	0.8207	100%	100.00%	5.75	5.75	0.00	0.60	1.78	32.00	520	0.069	1.242	0.039	
2/15/2024	Diesel Fuel, generic (used for VM & P Max 12)	List 1 RPP Diesel Fuel	68334-30-5	Yes	Yes	7.194	1	0.0168	100%	1.28%	0.12	1.54E-03	0.00	0.60	0.01	130.00	520	3.59E-04	5.187	0.001	
2/16/2024	Used Oil	List 1 RPP Motor Oil	68553-00-4	Yes	Yes	5.866	1	0.0002	100%	17.00%	9.61E-04	1.63E-04	0.00	0.60	6.00E-05	190.00	520	1.95E-06	6.182	0.006	
2/16/2024	Used Oil	List 1 RPP Motor Oil	68553-00-4	Yes	Yes	6.548	1	0.0002	100%	17.00%	1.07E-03	1.82E-04	0.00	0.60	6.00E-05	190.00	520	2.18E-06	6.901	0.006	
2/16/2024	Used Oil	List 1 RPP Motor Oil	68553-00-4	Yes	Yes	6.659	1	0.0002	100%	17.00%	1.09E-03	1.86E-04	0.00	0.60	6.00E-05	190.00	520	2.22E-06	7.018	0.006	
2/16/2024	Used Oil	List 1 RPP Motor Oil	68553-00-4	Yes	Yes	6.900	1	0.0002	100%	17.00%	1.13E-03	1.92E-04	0.00	0.60	6.00E-05	190.00	520	2.30E-06	7.272	0.007	
2/19/2024	Diesel Fuel, generic (used for Spirdane D15)	List 1 RPP Diesel Fuel	68334-30-5	Yes	Yes	7.039	1	0.0168	100%	1.28%	0.12	1.51E-03	0.00	0.60	0.01	130.00	520	3.51E-04	5.075	0.000	
2/21/2024	Diesel Fuel, generic (used for Spirdane D15)	List 1 RPP Diesel Fuel	68334-30-5	Yes	Yes	3.000	1	0.0168	100%	1.28%	0.05	6.44E-04	0.00	0.60	0.01	130.00	520	1.50E-04	2.163	0.000	
2/23/2024	Methanol	List 1 Methanol	67-56-1	Yes	Yes	7.000	1	0.8207	100%	100.00%	5.75	5.75	0.00	0.60	1.78	32.00	520	0.069	1.242	0.039	
2/27/2024	Distillate, generic (used for Distillation Feedstock)	List 1 RPP Distillate	64741-59-9	Yes	Yes	5.300	1	0.0001	100%	17.84%	2.71E-04	4.84E-05	0.00	0.60	4.45E-05	80.00	520	1.31E-06	2.352	0.005	
2/29/2024	Distillate, generic (used for Distillation Feedstock)	List 1 RPP Distillate	64741-59-9	Yes	Yes	5.200	1	0.0001	100%	17.84%	2.66E-04	4.75E-05	0.00	0.60	4.45E-05	80.00	520	1.28E-06	2.307	0.005	
2/29/2024	Diesel Fuel, generic (used for VM & P Max 12)	List 1 RPP Diesel Fuel	68334-30-5	Yes	Yes	7.194	1	0.0168	100%	1.28%	0.12	1.54E-03	0.00	0.60	0.01	130.00	520	3.59E-04	5.187	0.001	
2/29/2024	Diesel Fuel, generic (used for VM & P Max 12)	List 1 RPP Diesel Fuel	68334-30-5	Yes	Yes	6.005	1	0.0168	100%	1.28%	0.10	1.29E-03	0.00	0.60	0.01	130.00	520	3.00E-04	4.330	0.000	

(Kgal/month)	Total Cars
180.292	29

Monthly Total	VOC E _{T0}	HAP E _{T0}	Other E _{T0}
(lbs)	23.953	23.070	0.000
(tons)	0.012	0.012	0.000

Total:	0.280	223.09	0.373
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March 2024¹ (Based on LSRs Records)																					
3/8/2024	Diesel Fuel, generic (used for Spirdane D40)	List 1 Individual	68334-30-5	Yes	Yes	7.402	1	0.0025	100%	100.00%	0.02	0.02	0.00	0.60	1.16E-03	150.00	520	6.95E-05	8.988	0.060	
3/12/2024	Used Oil	List 1 RPP Motor Oil	68553-00-4	Yes	Yes	7.029	1	0.0002	100%	17.00%	1.15E-03	1.96E-04	0.00	0.60	6.00E-05	190.00	520	3.41E-06	10.811	0.010	
3/12/2024	Used Oil	List 1 RPP Motor Oil	68553-00-4	Yes	Yes	7.028	1	0.0002	100%	17.00%	1.15E-03	1.96E-04	0.00	0.60	6.00E-05	190.00	520	3.41E-06	10.810	0.010	
3/12/2024	Used Oil	List 1 RPP Motor Oil	68553-00-4	Yes	Yes	5.567	1	0.0002	100%	17.00%	9.12E-04	1.55E-04	0.00	0.60	6.00E-05	190.00	520	2.70E-06	8.562	0.008	
3/12/2024	Used Oil	List 1 RPP Motor Oil	68553-00-4	Yes	Yes	6.495	1	0.0002	100%	17.00%	1.06E-03	1.81E-04	0.00	0.60	6.00E-05	190.00	520	3.15E-06	9.990	0.009	
3/14/2024	Methanol	List 1 Methanol	67-56-1	Yes	Yes	7.000	1	0.8207	100%	100.00%	5.75	5.75	0.00	0.60	1.78	32.00	520	0.101	1.813	0.057	
3/15/2024	Methanol	List 1 Methanol	67-56-1	Yes	Yes	7.000	1	0.8207	100%	100.00%	5.75	5.75	0.00	0.60	1.78	32.00	520	0.101	1.813	0.057	
3/18/2024	Diesel Fuel, generic (used for Spirdane D15)	List 1 RPP Diesel Fuel	68334-30-5	Yes	Yes	7.031	1	0.0168	100%	1.28%	0.12	1.51E-03	0.00	0.60	0.01	130.00	520	0.001	7.399	0.001	
3/18/2024	Used Oil	List 1 RPP Motor Oil	68553-00-4	Yes	Yes	6.577	1	0.0002	100%	17.00%	1.08E-03	1.83E-04	0.00	0.60	6.00E-05	190.00	520	3.19E-06	10.116	0.009	
3/18/2024	Used Oil	List 1 RPP Motor Oil	68553-00-4	Yes	Yes	6.905	1	0.0002	100%	17.00%	1.13E-03	1.92E-04	0.00	0.60	6.00E-05	190.00	520	3.35E-06	10.620	0.010	
3/19/2024	Diesel Fuel, generic (used for Spirdane D40)	List 1 Individual	68334-30-5	Yes	Yes	3.000	1	0.0025	100%	100.00%	0.01	0.01	0.00	0.60	1.16E-03	150.00	520	2.82E-05	3.643	0.024	
3/19/2024	Used Oil	List 1 RPP Motor Oil	68553-00-4	Yes	Yes	6.910	1	0.0002	100%	17.00%	1.13E-03	1.93E-04	0.00	0.60	6.00E-05	190.00	520	3.36E-06	10.628	0.010	
3/19/2024	Used Oil	List 1 RPP Motor Oil	68553-00-4	Yes	Yes	6.056	1	0.0002	100%	17.00%	0.00	0.00	0.00	0.60	6.00E-05	190.00	520	2.94E-06	9.315	0.008	
3/22/2024	Methanol	List 1 Methanol	67-56-1	Yes	Yes	7.000	1	0.8207	100%	100.00%	5.75	5.75	0.00	0.60	1.78	32.00	520	0.101	1.813	0.057	
3/24/2024	Distillate, generic (used for Distillation Feedstock)	List 1 RPP Distillate	64741-59-9	Yes	Yes	5.600	1	0.0001	100%	17.84%	2.87E-04	5.11E-05	0.00	0.60	4.45E-05	80.00	520	2.02E-06	3.627	0.008	
3/24/2024	Distillate, generic (used for Distillation Feedstock)	List 1 RPP Distillate	64741-59-9	Yes	Yes	5.500	1	0.0001	100%	17.84%	2.82E-04	5.02E-05	0.00	0.60	4.45E-05	80.00	520	1.98E-06	3.562	0.008	
3/25/2024	Diesel Fuel, generic (used for Spirdane D40)	List 1 Individual	68334-30-5	Yes	Yes	6.940	1	0.0025	100%	100.00%	0.02	0.02	0.00	0.60	1.16E-03	150.00	520	6.52E-05	8.427	0.056	
3/26/2024	Diesel Fuel, generic (used for VM & P Max 12)	List 1 RPP Diesel Fuel	68334-30-5	Yes	Yes	7.246	2	0.0168	100%	1.28%	0.12	1.56E-03	0.00	0.60	0.01	130.00	520				

Diesel Dispensing DFD5 - VOC Emissions
Lakeshore Terminal Railroad LLC
East Chicago, IN

Parameters:

Annual Operating Hours = 8,760 hr/yr

Emissions:

Emission Unit	Max. Throughput ¹	VOC Emissions ^{2,3}	VOC Emissions	
	(gal/yr)	(lb/yr)	(lb/hr)	(tons/yr)
10,500-gallon Diesel Dispensing	1,277,500	22.57	2.6E-03	0.01

Footnotes:

1. The maximum throughput was based on the FESOP Minor Revision No. 089-43729-00469 for Lakeshore Railcar & Tanker Services LLC and 8,760 operating hours per year.
2. Working loss VOC emissions were estimated using the EIP Equation for Material Loss (Volume II, Chapter 8, Equation 8.4-1).
3. Breathing loss VOC emissions were estimated using AP-42, Chapter 7.1, Equation 1-2. Tank dimensions were approximated.

Tank Breathing Loss Emissions - Diesel Dispensing DFD5
Lakeshore Terminal Railroad LLC
East Chicago, IN

Parameters:

Description: Diesel Dispensing
 Capacity: 10,500 gallons
 Maximum Daily Throughput: 3,500 gallons/day
 Maximum Annual Throughput: 1,277,500 gallons/yr

Standing Loss Calculations	
$L_s = 365 \cdot V_v \cdot W_v \cdot K_E \cdot K_S$	(AP-42, Chap 7.1, eq. 1-2)

Vapor Space Volume V_v	
Tank Size	10,500 gallons
Tank Size	1,404 ft^3
Tank Diameter	8.0 ft
Tank Length	27.0 ft
Effective Tank Diameter (D_E)	16.6 ft
Effective Tank Height (H_E)	6.3 ft
Average Fill	5,250 gallons
V_v	679 ft^3

Vapor Density W_v (at average liquid temperature)	
$W_v = (M_v \cdot P_{VA}) / (R \cdot T_{LA})$	(AP-42, 7.1, eq. 1-21)
Average liquid temperature:	54.9 °F
Calculate M_v & P_v	

Chemical	Wt% ¹	Molecular Wt ¹	VP @ Avg. Liquid Temp (T_{LA}) ² (psia)	Moles	Mole %	Partial Pressure @ Avg. Liquid Temp (T_{LA}) (psia)	Molecular Weight of the Vapor (M_v)
Diesel	100%	130	0.005	130.0	100%	0.005	130
Average M_v	130.00						
Average P_v	0.005						
R	10.731	psia-ft ³ /lbmole-°R					
T_{LA}	54.9 °F =		514.5 °R				
Average W_v	0.0001	lb/ft ³					

Tanks 4.0.9d Diesel Vapor Pressures

40F	0.0031
50F	0.0045
60F	0.0065
70F	0.009
80F	0.012
90F	0.016
100F	0.022

¹ Molecular weights were taken from AP-42 Table 7.1-2 or Table 7.1-3

² Vapor pressure was interpolated from Tanks 4.0.9d values.

Vapor Space Expansion Factor (K_E)	
$K_E = \Delta T_v / T_{LA} + ((\Delta P_v - \Delta P_B) / (P_A - P_{VA}))$	(AP-42, Chap 7.1, eq. 1-7)

Symbols	Description	Values	Units
ΔT_v	Daily Temperature Range	25.86	°F
T_{AX}	Avg. Daily Maximum Temperature	58.4	°F
T_{AN}	Avg. Daily Minimum Temperature	41.8	°F
α	Paint Solar Absorption Factor	0.42	
I	Daily Total Solar Insulation Factor	1183	Btu/ft ² day
ΔP_v	Daily Vapor Pressure Range	0.002	psia
B Value	B Constant from Vapor Pressure Equation	8907	
T_{LA}	Average Liquid Temperature	514.5	°R
T_{AA}	Daily Average Ambient Temperature	509.77	°R
T_B	Bulk Liquid Temperature	511.3	°R
ΔP_B	Vent Pressure Range (usually 0.06 psia)	0.06	psia
P_A	Atmospheric Pressure (14.7 psia)	14.7	psia
P_{VA}	Vapor Pressure at Average Temperature of Liquid	0.005	psia
		$K_E =$	0.0463

Location Utilized: Chicago, IL

$\Delta T_v = 0.72 \cdot \Delta T_A + 0.028 \cdot \alpha \cdot I$
 From AP-42 Table 7.1-7
 From AP-42 Table 7.1-7
 Assume white paint/good condition (or AP-42 Table 7.1-6)
 From AP-42 Table 7.1-7
 $\Delta P_v = (0.5 \cdot B \cdot P_{VA} \cdot \Delta T_v) / T_{LA}^2$
 From AP-42 Table 7.1-5
 $T_{LA} = 0.44 \cdot T_{AA} + 0.56 \cdot T_B + 0.0079 \cdot \alpha \cdot I$
 $T_{AA} = (T_{AX} + T_{AN}) / 2$
 $T_B = T_{AA} + 6 \cdot \alpha - 1$

Vented Vapor Saturation Factor (K_S)	
$K_S = 1 / (1 + (0.053 \cdot P_{VA} \cdot H_{vo}))$	(AP-42, Chap 7.1, eq. 1-20)

Symbol	Description	Values	Units
P_{VA}	Vapor pressure at average liquid temperature	0.005	psia
	vapor space outage	3.1	ft
		$K_S =$	0.9991

Standing Loss (L_s) =	1.48 lbs/yr
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Tank Working Loss Emissions - Diesel Dispensing DFD5
Lakeshore Terminal Railroad LLC
East Chicago, IN

EIIP Equation for Material Loss (Volume II, Chapter 8, Equation 8.4-1):

$E_{\text{voc}} = 12.46 \times \frac{S \times P \times M \times Q}{T}$	
where	
E _{voc}	= total VOC loading emissions (lb/yr)
S	= saturation factor (dimensionless; see Table 5.2-1 in AP-42)
P	= vapor pressure of the material loaded at temperature T (psia)
M	= vapor molecular weight (lb/lb-mole)
Q	= volume of material loaded (1,000 gal/yr)
T	= temperature of liquid loaded (°R).

Parameters:

Parameter		Value	Unit
Max. Yearly Diesel Usage	Q	1,277,500	gal/yr
Temperature	T	529.67	R (Based on 70 degree F)
Saturation Factor (Submerged Loading)	S	0.6	dimensionless
Diesel Molecular Weight	M	130	lbs/lb-mole
Vapor Pressure @ 529.67R	P	0.009	Psia

Emissions:

Emissions		Value	Unit
Annual VOC Working Loss	E _{voc}	21.10	lbs/yr
		0.0105	tons/yr

Boiler B1 - Natural Gas Combustion
Lakeshore Terminal Railroad LLC
East Chicago, IN

Parameters:

Firing Capacity ¹ = 5.02 MMBtu/hr
 Maximum Annual Operating Hours ² = 8,760 hrs/yr
 Expected Actual Annual Operating Hours ³ = 4,160 hrs/yr
 Heating Value for Natural Gas ⁴ = 1,020 Btu/scf

Emission Factors ⁵:

NOx = 100 lb/mmscf
 CO = 84 lb/mmscf
 PM/PM₁₀/PM_{2.5} = 7.6 lb/mmscf
 SO₂ = 0.6 lb/mmscf
 VOC = 5.5 lb/mmscf
 HAPs = (see the pages for HAPs - Natural Gas Combustion)

Calculations:

Emissions (lbs/hr) = Emission Factor (lb/mmscf) × Firing Capacity (MMBtu/hr) / Heating Value (Btu/scf)

Emissions (TPY) = Emissions (lbs/hr) / 2,000 (lbs/ton) x Annual Operating Hours (hrs/yr)

Emissions:

Pollutant	Emission Factor ⁵	Potential Emissions		Actual Emissions	
	(lbs/MMscf)	(lbs/hr)	(TPY)	(lbs/hr)	(TPY)
NOx	100	0.49	2.16	0.49	1.02
CO	84	0.41	1.81	0.41	0.86
PM	7.6	0.04	0.16	0.04	0.08
SO ₂	0.6	3.0E-03	0.01	3.0E-03	0.01
VOC	5.5	0.03	0.12	0.03	0.06
Max. Single HAP (Hexane)	1.80	0.01	0.04	0.01	0.02
Total HAPs	1.89	0.01	0.04	0.01	0.02

Notes:

1. The firing capacity of the boiler was provided by the facility.
2. The maximum annual operating hours are assumed to be 8,760 operating hr/yr.
3. The expected actual annual operating hours are assumed to be 4,160 operating hr/yr based on 16 operating hours per day, 5 operating days per week, and 52 operating weeks per year.
4. The heating value for natural gas is based on literature.
5. Emission factors are from AP-42, Section 1.4, Tables 1.4-1 and 1.4-2 (Fifth Edition, Volume I, supplement D, July 1998).

Boiler B2 - Natural Gas Combustion
Lakeshore Terminal Railroad LLC
East Chicago, IN

Parameters:

Firing Capacity ¹ = 25.106 MMBtu/hr
 Maximum Annual Operating Hours ² = 8,760 hrs/yr
 Expected Actual Annual Operating Hours ³ = 4,160 hrs/yr
 Heating Value for Natural Gas ⁴ = 1,020 Btu/scf

Emission Factors ⁵:

NOx = 100 lb/mmscf
 CO = 84 lb/mmscf
 PM/PM₁₀/PM_{2.5} = 7.6 lb/mmscf
 SO₂ = 0.6 lb/mmscf
 VOC = 5.5 lb/mmscf
 HAPs = (see the pages for HAPs - Natural Gas Combustion)

Calculations:

Emissions (lbs/hr) = Emission Factor (lb/mmscf) × Firing Capacity (MMBtu/hr) / Heating Value (Btu/scf)

Emissions (TPY) = Emissions (lbs/hr) / 2,000 (lbs/ton) x Annual Operating Hours (hrs/yr)

Emissions:

Pollutant	Emission Factor ⁵	Potential Emissions		Actual Emissions	
	(lbs/MMscf)	(lbs/hr)	(TPY)	(lbs/hr)	(TPY)
NOx	100	2.46	10.78	2.46	5.12
CO	84	2.07	9.06	2.07	4.30
PM	7.6	0.19	0.82	0.19	0.39
SO ₂	0.6	0.01	0.06	0.01	0.03
VOC	5.5	0.14	0.59	0.14	0.28
Max. Single HAP (Hexane)	1.80	0.04	0.19	0.04	0.09
Total HAPs	1.89	0.05	0.20	0.05	0.10

Notes:

1. The firing capacity of the boiler was provided by the facility.
2. The maximum annual operating hours are assumed to be 8,760 operating hr/yr.
3. The expected actual annual operating hours are assumed to be 4,160 operating hr/yr based on 16 operating hours per day, 5 operating days per week, and 52 operating weeks per year.
4. The heating value for natural gas is based on literature.
5. Emission factors are from AP-42, Section 1.4, Tables 1.4-1 and 1.4-2 (Fifth Edition, Volume I, supplement D, July 1998).

Two HVAC Units - Natural Gas Combustion
Lakeshore Terminal Railroad LLC
East Chicago, IN

Parameters:

Firing Capacity ¹ =	0.050 MMBtu/hr
Number of Identical Units ¹ =	2 units
Maximum Annual Operating Hours ² =	8,760 hrs/yr
Expected Actual Annual Operating Hours ³ =	4,160 hrs/yr
Heating Value for Natural Gas ⁴ =	1,020 Btu/scf

Emission Factors ⁵:

NOx =	100	lb/mmscf
CO =	84	lb/mmscf
PM/PM ₁₀ /PM _{2.5} =	7.6	lb/mmscf
SO ₂ =	0.6	lb/mmscf
VOC =	5.5	lb/mmscf
HAPs =	<i>(see the pages for HAPs - Natural Gas Combustion)</i>	

Calculations:

Emissions (lbs/hr) = Emission Factor (lb/mmscf) × Firing Capacity (MMBtu/hr) / Heating Value (Btu/scf)

Emissions (TPY) = Emissions (lbs/hr) / 2,000 (lbs/ton) × Annual Operating Hours (hrs/yr)

Emissions:

Pollutant	Emission Factor ⁵	Potential Emissions		Actual Emissions	
	(lbs/MMscf)	(lbs/hr)	(TPY)	(lbs/hr)	(TPY)
NOx	100	0.01	0.04	0.01	0.02
CO	84	0.01	0.04	0.01	0.02
PM	7.6	7.5E-04	0.00	7.5E-04	1.5E-03
SO ₂	0.6	5.9E-05	2.6E-04	5.9E-05	1.2E-04
VOC	5.5	5.4E-04	0.00	5.4E-04	1.1E-03
Max. Single HAP (Hexane)	1.80	1.8E-04	7.7E-04	1.8E-04	3.7E-04
Total HAPs	1.89	1.9E-04	8.1E-04	1.9E-04	3.8E-04

Notes:

1. This information was provided by the facility.
2. The maximum annual operating hours are assumed to be 8,760 operating hr/yr.
3. The expected actual annual operating hours are conservatively assumed to be 4,160 operating hr/yr based on 16 operating hours per day, 5 operating days per week, and 52 operating weeks per year.
4. The heating value for natural gas is based on literature.
5. Emission factors are from AP-42, Section 1.4, Tables 1.4-1 and 1.4-2 (Fifth Edition, Volume I, supplement D, July 1998).

Five Heaters - Natural Gas Combustion
Lakeshore Terminal Railroad LLC
East Chicago, IN

Parameters:

Firing Capacity ¹ =	0.250 MMBtu/hr
Number of Identical Units ¹ =	5 units
Maximum Annual Operating Hours ² =	8,760 hrs/yr
Expected Actual Annual Operating Hours ³ =	4,160 hrs/yr
Heating Value for Natural Gas ⁴ =	1,020 Btu/scf

Emission Factors ⁵:

NO _x =	100	lb/mmscf
CO =	84	lb/mmscf
PM/PM ₁₀ /PM _{2.5} =	7.6	lb/mmscf
SO ₂ =	0.6	lb/mmscf
VOC =	5.5	lb/mmscf
HAPs =	<i>(see the pages for HAPs - Natural Gas Combustion)</i>	

Calculations:

Emissions (lbs/hr) = Emission Factor (lb/mmscf) × Firing Capacity (MMBtu/hr) / Heating Value (Btu/scf)

Emissions (TPY) = Emissions (lbs/hr) / 2,000 (lbs/ton) × Annual Operating Hours (hrs/yr)

Emissions:

Pollutant	Emission Factor ⁵	Potential Emissions		Actual Emissions	
	(lbs/MMscf)	(lbs/hr)	(TPY)	(lbs/hr)	(TPY)
NO _x	100	0.12	0.54	0.12	0.25
CO	84	0.10	0.45	0.10	0.21
PM	7.6	0.01	0.04	0.01	0.02
SO ₂	0.6	7.4E-04	3.2E-03	7.4E-04	1.5E-03
VOC	5.5	0.01	0.03	0.01	0.01
Max. Single HAP (Hexane)	1.80	2.2E-03	0.01	2.2E-03	4.6E-03
Total HAPs	1.89	2.3E-03	0.01	2.3E-03	4.8E-03

Notes:

1. This information was provided by the facility.
2. The maximum annual operating hours are assumed to be 8,760 operating hr/yr.
3. The expected actual annual operating hours are conservatively assumed to be 4,160 operating hr/yr based on 16 operating hours per day, 5 operating days per week, and 52 operating weeks per year.
4. The heating value for natural gas is based on literature.
5. Emission factors are from AP-42, Section 1.4, Tables 1.4-1 and 1.4-2 (Fifth Edition, Volume I, supplement D, July 1998).

HAPs - Natural Gas Combustion (Potential Emissions)

Lakeshore Terminal Railroad LLC

East Chicago, IN

Parameters:

Boiler B1	Firing Capacity ¹ =	5.02 MMBtu/hr
Boiler B2	Firing Capacity ¹ =	25.106 MMBtu/hr
HVAC Units	Firing Capacity ¹ =	0.050 MMBtu/hr each for 2 units
Heaters	Firing Capacity ¹ =	0.250 MMBtu/hr each for 2 units
	Maximum Annual Operating Hours ² =	8,760 hrs/yr
	Heating Value for Natural Gas ³ =	1,020 Btu/scf

Calculations:

Emissions (lbs/hr) = Emission Factor (lb/mmscf) × Firing Capacity (MMBtu/hr) / Heating Value (Btu/scf)

Emissions (TPY) = Emissions (lbs/hr) / 2,000 (lbs/ton) × Maximum Annual Operating Hours (hrs/yr)

Potential Emissions:

HAPs	Emission Factor ⁴	Boiler B1		Boiler B2		HVAC Units		Heaters	
	(lbs/MMscf)	(lbs/hr)	(TPY)	(lbs/hr)	(TPY)	(lbs/hr)	(TPY)	(lbs/hr)	(TPY)
Benzene	0.0021	1.0E-05	4.5E-05	5.2E-05	2.3E-04	2.1E-07	9.0E-07	2.6E-06	1.1E-05
Formaldehyde	0.075	3.7E-04	1.6E-03	1.8E-03	8.1E-03	7.4E-06	3.2E-05	9.2E-05	4.0E-04
Hexane	1.80	8.9E-03	3.9E-02	4.4E-02	1.9E-01	1.8E-04	7.7E-04	2.2E-03	9.7E-03
Toluene	0.0034	1.7E-05	7.3E-05	8.4E-05	3.7E-04	3.3E-07	1.5E-06	4.2E-06	1.8E-05
Nickel	0.0021	1.0E-05	4.5E-05	5.2E-05	2.3E-04	2.1E-07	9.0E-07	2.6E-06	1.1E-05
Chromium	0.0014	6.9E-06	3.0E-05	3.4E-05	1.5E-04	1.4E-07	6.0E-07	1.7E-06	7.5E-06
Dichlorobenzene	0.0012	5.9E-06	2.6E-05	3.0E-05	1.3E-04	1.2E-07	5.2E-07	1.5E-06	6.4E-06
Cadmium	0.0011	5.4E-06	2.4E-05	2.7E-05	1.2E-04	1.1E-07	4.7E-07	1.3E-06	5.9E-06
Manganese	0.00038	1.9E-06	8.2E-06	9.4E-06	4.1E-05	3.7E-08	1.6E-07	4.7E-07	2.0E-06
Mercury	0.00026	1.3E-06	5.6E-06	6.4E-06	2.8E-05	2.5E-08	1.1E-07	3.2E-07	1.4E-06
Arsenic	0.0002	9.8E-07	4.3E-06	4.9E-06	2.2E-05	2.0E-08	8.6E-08	2.5E-07	1.1E-06
Cobalt	0.000084	4.1E-07	1.8E-06	2.1E-06	9.1E-06	8.2E-09	3.6E-08	1.0E-07	4.5E-07
Beryllium	0.000012	5.9E-08	2.6E-07	3.0E-07	1.3E-06	1.2E-09	5.2E-09	1.5E-08	6.4E-08
Selenium	0.000024	1.2E-07	5.2E-07	5.9E-07	2.6E-06	2.4E-09	1.0E-08	2.9E-08	1.3E-07
Total POM/PAH	0.0006982	3.4E-06	1.5E-05	1.7E-05	7.5E-05	6.8E-08	3.0E-07	8.6E-07	3.7E-06
2 - Methylnaphthalene	0.000024	1.2E-07	5.2E-07	5.9E-07	2.6E-06	2.4E-09	1.0E-08	2.9E-08	1.3E-07
3 - Methylcholanthrene	0.0000018	8.9E-09	3.9E-08	4.4E-08	1.9E-07	1.8E-10	7.7E-10	2.2E-09	9.7E-09
7,12-Dimethylbenz(a)anthracene	0.000016	7.9E-08	3.4E-07	3.9E-07	1.7E-06	1.6E-09	6.9E-09	2.0E-08	8.6E-08
Naphthalene	0.00061	3.0E-06	1.3E-05	1.5E-05	6.6E-05	6.0E-08	2.6E-07	7.5E-07	3.3E-06
Acenaphthene	0.0000018	8.9E-09	3.9E-08	4.4E-08	1.9E-07	1.8E-10	7.7E-10	2.2E-09	9.7E-09
Acenaphthylene	0.0000018	8.9E-09	3.9E-08	4.4E-08	1.9E-07	1.8E-10	7.7E-10	2.2E-09	9.7E-09
Anthracene	0.0000024	1.2E-08	5.2E-08	5.9E-08	2.6E-07	2.4E-10	1.0E-09	2.9E-09	1.3E-08
Fluorene	0.0000028	1.4E-08	6.0E-08	6.9E-08	3.0E-07	2.7E-10	1.2E-09	3.4E-09	1.5E-08
Phenanthrene	0.000017	8.4E-08	3.7E-07	4.2E-07	1.8E-06	1.7E-09	7.3E-09	2.1E-08	9.1E-08
Fluoranthene	0.000003	1.5E-08	6.5E-08	7.4E-08	3.2E-07	2.9E-10	1.3E-09	3.7E-09	1.6E-08
Pyrene	0.000005	2.5E-08	1.1E-07	1.2E-07	5.4E-07	4.9E-10	2.1E-09	6.1E-09	2.7E-08
Benz(a)anthracene	0.0000018	8.9E-09	3.9E-08	4.4E-08	1.9E-07	1.8E-10	7.7E-10	2.2E-09	9.7E-09
Benzo(a)pyrene	0.0000012	5.9E-09	2.6E-08	3.0E-08	1.3E-07	1.2E-10	5.2E-10	1.5E-09	6.4E-09
Benzo(b)fluoranthene	0.0000018	8.9E-09	3.9E-08	4.4E-08	1.9E-07	1.8E-10	7.7E-10	2.2E-09	9.7E-09
Benzo(g,h,i)perylene	0.0000012	5.9E-09	2.6E-08	3.0E-08	1.3E-07	1.2E-10	5.2E-10	1.5E-09	6.4E-09
Benzo(k)fluoranthene	0.0000018	8.9E-09	3.9E-08	4.4E-08	1.9E-07	1.8E-10	7.7E-10	2.2E-09	9.7E-09
Indeno(1,2,3-cd)pyrene	0.0000018	8.9E-09	3.9E-08	4.4E-08	1.9E-07	1.8E-10	7.7E-10	2.2E-09	9.7E-09
Dibenzo(a,h)anthracene	0.0000012	5.9E-09	2.6E-08	3.0E-08	1.3E-07	1.2E-10	5.2E-10	1.5E-09	6.4E-09
Chrysene	0.0000018	8.9E-09	3.9E-08	4.4E-08	1.9E-07	1.8E-10	7.7E-10	2.2E-09	9.7E-09
Max. Single HAP (Hexane)	1.80	0.01	0.04	0.04	0.19	1.76E-04	7.73E-04	2.21E-03	9.66E-03
Total HAPs	1.89	0.01	0.04	0.05	0.20	1.85E-04	8.11E-04	2.31E-03	1.01E-02

Notes:

1. The firing capacities were provided by the facility.
2. The maximum annual operating hours are assumed to be 8,760 operating hr/yr.
3. The heating value for natural gas is based on literature.
4. Emission factors are from AP-42, Section 1.4, Tables 1.4-1 and 1.4-2 (Fifth Edition, Volume I, supplement D, July 1998).

HAPs - Natural Gas Combustion (Actual Emissions)

Lakeshore Terminal Railroad LLC

East Chicago, IN

Parameters:

Boiler B1	Firing Capacity ¹ =	5.02 MMBtu/hr
Boiler B2	Firing Capacity ¹ =	25.106 MMBtu/hr
HVAC Units	Firing Capacity ¹ =	0.050 MMBtu/hr each for 2 units
Heaters	Firing Capacity ¹ =	0.250 MMBtu/hr each for 2 units
Expected Actual Annual Operating Hours ² =		4,160 hrs/yr
Heating Value for Natural Gas ³ =		1,020 Btu/scf

Calculations:

Emissions (lbs/hr) = Emission Factor (lb/mmscf) × Firing Capacity (MMBtu/hr) / Heating Value (Btu/scf)

Emissions (TPY) = Emissions (lbs/hr) / 2,000 (lbs/ton) × Expected Annual Operating Hours (hrs/yr)

Potential Emissions:

HAPs	Emission Factor ⁴	Boiler B1		Boiler B2		HVAC Units		Heaters	
	(lbs/MMscf)	(lbs/hr)	(TPY)	(lbs/hr)	(TPY)	(lbs/hr)	(TPY)	(lbs/hr)	(TPY)
Benzene	0.0021	1.0E-05	2.1E-05	5.2E-05	1.1E-04	2.1E-07	4.3E-07	2.6E-06	5.4E-06
Formaldehyde	0.075	3.7E-04	7.7E-04	1.8E-03	3.8E-03	7.4E-06	1.5E-05	9.2E-05	1.9E-04
Hexane	1.80	8.9E-03	1.8E-02	4.4E-02	9.2E-02	1.8E-04	3.7E-04	2.2E-03	4.6E-03
Toluene	0.0034	1.7E-05	3.5E-05	8.4E-05	1.7E-04	3.3E-07	6.9E-07	4.2E-06	8.7E-06
Nickel	0.0021	1.0E-05	2.1E-05	5.2E-05	1.1E-04	2.1E-07	4.3E-07	2.6E-06	5.4E-06
Chromium	0.0014	6.9E-06	1.4E-05	3.4E-05	7.2E-05	1.4E-07	2.9E-07	1.7E-06	3.6E-06
Dichlorobenzene	0.0012	5.9E-06	1.2E-05	3.0E-05	6.1E-05	1.2E-07	2.4E-07	1.5E-06	3.1E-06
Cadmium	0.0011	5.4E-06	1.1E-05	2.7E-05	5.6E-05	1.1E-07	2.2E-07	1.3E-06	2.8E-06
Manganese	0.00038	1.9E-06	3.9E-06	9.4E-06	1.9E-05	3.7E-08	7.7E-08	4.7E-07	9.7E-07
Mercury	0.00026	1.3E-06	2.7E-06	6.4E-06	1.3E-05	2.5E-08	5.3E-08	3.2E-07	6.6E-07
Arsenic	0.0002	9.8E-07	2.0E-06	4.9E-06	1.0E-05	2.0E-08	4.1E-08	2.5E-07	5.1E-07
Cobalt	0.000084	4.1E-07	8.6E-07	2.1E-06	4.3E-06	8.2E-09	1.7E-08	1.0E-07	2.1E-07
Beryllium	0.000012	5.9E-08	1.2E-07	3.0E-07	6.1E-07	1.2E-09	2.4E-09	1.5E-08	3.1E-08
Selenium	0.000024	1.2E-07	2.5E-07	5.9E-07	1.2E-06	2.4E-09	4.9E-09	2.9E-08	6.1E-08
Total POM/PAH	0.0006982	3.4E-06	7.1E-06	1.7E-05	3.6E-05	6.8E-08	1.4E-07	8.6E-07	1.8E-06
2 - Methylnaphthalene	0.000024	1.2E-07	2.5E-07	5.9E-07	1.2E-06	2.4E-09	4.9E-09	2.9E-08	6.1E-08
3 - Methylcholanthrene	0.0000018	8.9E-09	1.8E-08	4.4E-08	9.2E-08	1.8E-10	3.7E-10	2.2E-09	4.6E-09
7,12-Dimethylbenz(a)anthracene	0.000016	7.9E-08	1.6E-07	3.9E-07	8.2E-07	1.6E-09	3.3E-09	2.0E-08	4.1E-08
Naphthalene	0.00061	3.0E-06	6.2E-06	1.5E-05	3.1E-05	6.0E-08	1.2E-07	7.5E-07	1.6E-06
Acenaphthene	0.0000018	8.9E-09	1.8E-08	4.4E-08	9.2E-08	1.8E-10	3.7E-10	2.2E-09	4.6E-09
Acenaphthylene	0.0000018	8.9E-09	1.8E-08	4.4E-08	9.2E-08	1.8E-10	3.7E-10	2.2E-09	4.6E-09
Anthracene	0.0000024	1.2E-08	2.5E-08	5.9E-08	1.2E-07	2.4E-10	4.9E-10	2.9E-09	6.1E-09
Fluorene	0.0000028	1.4E-08	2.9E-08	6.9E-08	1.4E-07	2.7E-10	5.7E-10	3.4E-09	7.1E-09
Phenanthrene	0.000017	8.4E-08	1.7E-07	4.2E-07	8.7E-07	1.7E-09	3.5E-09	2.1E-08	4.3E-08
Fluoranthene	0.000003	1.5E-08	3.1E-08	7.4E-08	1.5E-07	2.9E-10	6.1E-10	3.7E-09	7.6E-09
Pyrene	0.000005	2.5E-08	5.1E-08	1.2E-07	2.6E-07	4.9E-10	1.0E-09	6.1E-09	1.3E-08
Benz(a)anthracene	0.0000018	8.9E-09	1.8E-08	4.4E-08	9.2E-08	1.8E-10	3.7E-10	2.2E-09	4.6E-09
Benzo(a)pyrene	0.0000012	5.9E-09	1.2E-08	3.0E-08	6.1E-08	1.2E-10	2.4E-10	1.5E-09	3.1E-09
Benzo(b)fluoranthene	0.0000018	8.9E-09	1.8E-08	4.4E-08	9.2E-08	1.8E-10	3.7E-10	2.2E-09	4.6E-09
Benzo(g,h,i)perylene	0.0000012	5.9E-09	1.2E-08	3.0E-08	6.1E-08	1.2E-10	2.4E-10	1.5E-09	3.1E-09
Benzo(k)fluoranthene	0.0000018	8.9E-09	1.8E-08	4.4E-08	9.2E-08	1.8E-10	3.7E-10	2.2E-09	4.6E-09
Indeno(1,2,3-cd)pyrene	0.0000018	8.9E-09	1.8E-08	4.4E-08	9.2E-08	1.8E-10	3.7E-10	2.2E-09	4.6E-09
Dibenzo(a,h)anthracene	0.0000012	5.9E-09	1.2E-08	3.0E-08	6.1E-08	1.2E-10	2.4E-10	1.5E-09	3.1E-09
Chrysene	0.0000018	8.9E-09	1.8E-08	4.4E-08	9.2E-08	1.8E-10	3.7E-10	2.2E-09	4.6E-09
Max. Single HAP (Hexane)	1.80	0.01	0.02	0.04	0.09	1.76E-04	3.67E-04	2.21E-03	4.59E-03
Total HAPs	1.89	0.01	0.02	0.05	0.10	1.85E-04	3.85E-04	2.31E-03	4.81E-03

Notes:

1. The firing capacities were provided by the facility.
2. The expected actual annual operating hours are assumed to be 4,160 operating hr/yr based on 16 operating hours per day, 5 operating days per week, and 52 operating weeks per year.
3. The heating value for natural gas is based on literature.
4. Emission factors are from AP-42, Section 1.4, Tables 1.4-1 and 1.4-2 (Fifth Edition, Volume I, supplement D, July 1998).

Paved Roads - PM Emissions
Lakeshore Terminal Railroad LLC
East Chicago, IN

Paved Roads at Industrial Site:

The following calculations determine the amount of emissions created by paved roads, based on AP-42, Ch 13.2.1 (1/2011).

Vehicle Information (provided by the Facility):

Type	Maximum number of vehicles per day	Number of one-way trips per day per vehicle	Maximum trips per day (trip/day)	Maximum Weight Loaded (tons/trip)	Total Weight driven per day (ton/day)	Maximum one-way distance (feet/trip)	Maximum one-way distance (miles/trip)	Maximum one-way miles (miles/day)	Maximum one-way miles (miles/yr)
Truck Tankers (enter empty)	5.0	1.0	5.0	17	85	1300	0.246	1.2	449.3
Truck Tankers (leave full)	5.0	1.0	5.0	40	200	1300	0.246	1.2	449.3
Truck Tankers (enter full)	5.0	1.0	5.0	40	200	1300	0.246	1.2	449.3
Truck Tankers (leave empty)	5.0	1.0	5.0	17	85	1300	0.246	1.2	449.3
Light Duty Vehicles (enter with driver)	5.0	1.0	5.0	2.4	12	650	0.123	0.6	224.7
Light Duty Vehicles (leave with driver)	5.0	1.0	5.0	2.4	12	650	0.123	0.6	224.7
Totals			30.0		594			6.2	2,247

Average Vehicle Weight Per Trip = tons/trip
Average Miles Per Trip = miles/trip

Unmitigated Emission Factor, Ef = $[k * (sL)^{0.91} * (W)^{1.02}]$ (Equation 1 from AP-42 13.2.1)

	PM	PM10	PM2.5	
where k =	0.011	0.0022	0.00054	lb/VMT = particle size multiplier (AP-42 Table 13.2.1-1)
W =	19.8	19.8	19.8	tons = average vehicle weight (provided by source)
sL =	9.7	9.7	9.7	g/m ² = silt loading value for paved roads for Steel and Iron Production - Table 13.2.1-3)

Taking natural mitigation due to precipitation into consideration, Mitigated Emission Factor, Eext = $E * [1 - (p/4N)]$ (Equation 2 from AP-42 13.2.1)

Mitigated Emission Factor, Eext = $Ef * [1 - (p/4N)]$
where p = days of rain greater than or equal to 0.01 inches (see Fig. 13.2.1-2)
N = days per year

	PM	PM10	PM2.5	
Unmitigated Emission Factor, Ef =	1.828	0.366	0.0897	lb/mile
Mitigated Emission Factor, Eext =	1.671	0.334	0.0821	lb/mile
Dust Control Efficiency =	0.0%	0.0%	0.0%	

Process	Unmitigated PM Emissions (tons/yr)	Unmitigated PM10 Emissions (tons/yr)	Unmitigated PM2.5 Emissions (tons/yr)	Mitigated PM Emissions (tons/yr)	Mitigated PM10 Emissions (tons/yr)	Mitigated PM2.5 Emissions (tons/yr)	Actual PM Emissions (tons/yr)	Actual PM10 Emissions (tons/yr)	Actual PM2.5 Emissions (tons/yr)
Truck Tankers (enter empty)	0.41	0.08	0.02	0.38	0.08	0.02	0.38	0.08	0.02
Truck Tankers (leave full)	0.41	0.08	0.02	0.38	0.08	0.02	0.38	0.08	0.02
Truck Tankers (enter full)	0.41	0.08	0.02	0.38	0.08	0.02	0.38	0.08	0.02
Truck Tankers (leave empty)	0.41	0.08	0.02	0.38	0.08	0.02	0.38	0.08	0.02
Light Duty Vehicles (enter with driver)	0.21	0.04	0.01	0.19	0.04	0.01	0.19	0.04	0.01
Light Duty Vehicles (leave with driver)	0.21	0.04	0.01	0.19	0.04	0.01	0.19	0.04	0.01
Total (tons/yr)	2.05	0.41	0.10	1.88	0.38	0.09	1.88	0.38	0.09
Total (lbs/hr)	0.47	0.09	0.02	0.43	0.09	0.02	0.43	0.09	0.02

Methodology:

Total Weight driven per day (ton/day) = [Maximum Weight Loaded (tons/trip)] * [Maximum trips per day (trip/day)]
Maximum one-way distance (mi/trip) = [Maximum one-way distance (feet/trip)] / [5280 ft/mile]
Maximum one-way miles (miles/day) = [Maximum trips per year (trip/day)] * [Maximum one-way distance (mi/trip)]
Average Vehicle Weight Per Trip (ton/trip) = SUM[Total Weight driven per day (ton/day)] / SUM[Maximum trips per day (trip/day)]
Average Miles Per Trip (miles/trip) = SUM[Maximum one-way miles (miles/day)] / SUM[Maximum trips per year (trip/day)]
Unmitigated PTE (tons/yr) = [Maximum one-way miles (miles/yr)] * [Unmitigated Emission Factor (lb/mile)] * (ton/2000 lbs)
Mitigated PTE (tons/yr) = [Maximum one-way miles (miles/yr)] * [Mitigated Emission Factor (lb/mile)] * (ton/2000 lbs)
Controlled PTE (tons/yr) = [Mitigated PTE (tons/yr)] * [1 - Dust Control Efficiency]

From: [Uhlir, Grayson](#)
To: [SURA, MEHUL](#)
Subject: RE: IDEM OAQ Contact Information for Application No. 089-47845-00732 for Lakeshore Terminal Railroad LLC
Date: Friday, May 17, 2024 10:22:25 AM
Attachments: [image001.png](#)
[image002.png](#)
[image003.png](#)
[image004.png](#)
[image005.png](#)
[image006.png](#)
[image007.png](#)
[image733386.png](#)
[image712679.png](#)
[image989311.png](#)
[Lakeshore Terminal Railroad - GSD-15 Submittal REVISED.pdf](#)

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Good morning,

I was able to notify North Township, and I updated the GSD-15 form accordingly (see attached). I will provide the GSD-14 form soon once I am able to reach the adjacent owners/occupants.

Thank you,
Grayson

Grayson Uhlir
Project Engineer

 **Weaver Consultants Group**

35 E. Wacker Drive | Suite 1250

Chicago, IL 60601

O: 312-922-1030 | F: 312-922-0201 | M: 708-870-0622

guhkir@wcgrp.com | www.wcgrp.com 



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From: Uhlir, Grayson

Sent: Thursday, May 16, 2024 2:48 PM

To: SURA, MEHUL <MSURA@idem.IN.gov>

Subject: RE: IDEM OAQ Contact Information for Application No. 089-47845-00732 for Lakeshore Terminal Railroad LLC

Hi Mehul,

Thank you very much!

Please find attached an electronic copy of the emission calculations in excel format. Also, find attached the completed GSD-15 form. Note, I tried contacting Lake County as well as North Township, but the representatives I spoke to were rather confused about my notification and did not know how to direct it. However, I was able to successfully notify the Mayor of East Chicago's office – let me know if this is sufficient. We are still working to notify the adjacent owners/occupants and will provide the completed GSD-14 form soon.

Sincerely,
Grayson

From: SURA, MEHUL <MSURA@idem.IN.gov>

Sent: Thursday, May 16, 2024 9:17 AM

To: Uhlir, Grayson <guhkir@wcgrp.com>

Subject: IDEM OAQ Contact Information for Application No. 089-47845-00732 for Lakeshore Terminal Railroad LLC

CAUTION: This email originated from outside your organization. Exercise caution when opening attachments or clicking links, especially from unknown senders.

Good morning,

I am the permit writer assigned to the current application No. 089-47845-00732 for Lakeshore Terminal Railroad LLC. I would like to extend to you my contact information so that we may have continued communication until your new permit is issued. Please keep this information at hand. It is common for questions to arise, and oftentimes, further clarification is needed during the permit review process.

To expedite the review process, please e-mail me the electronic copy of your calculations (preferably in excel format) used as part of your application.

Based on my preliminary review of the application, please provide the following completed forms:

(1) GSD 14 - Owners and Occupants Notified form.

Please note that within ten (10) working days after submitting an application for a permit, the person that submitted the application for the permit shall make a reasonable effort to provide notice:

(1) to all owners of land that adjoins the land that is the subject of the permit application; or
(2) if the owner of land that adjoins the land that is the subject of the permit application does not occupy the land, to all occupants of the land.

(2) GSD-15 – Government Officials Notified

IDEM, OAQ will notify you when a draft permit has been submitted for public notice and/or when a final

permit has been issued. As part of the notification, IDEM, OAQ will provide information on how to access the draft and/or final permit electronically on IDEM's website. If Lakeshore Terminal Railroad LLC would prefer to receive paper copies of the entire draft and/or final permit, please let me know prior to the end of the applicant review period. If you prefer to receive paper copies of the entire permit, IDEM, OAQ will mail a paper copy of the draft permit and/or original signed final permit to the source contact. If you do not request to receive paper copies of the entire permit, IDEM, OAQ will only mail a paper copy of the original signed final permit signature page to the source contact.

Please feel free to contact me at any time if you have questions, concerns, or important information regarding your permit. For your convenience, my section chief Madhurima Moulik may be contacted at 317-233-6663 or mmoulik@idem.in.gov.

Thank you in advance for your time and assistance. I look forward to working with you.



Mehul Sura
Environmental Engineer
IDEM, Air Permit Branch

(317) 233-6868 • MSURA@idem.in.gov

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Scan the QR code to leave your feedback.

We appreciate your input!





**OAQ GENERAL SOURCE DATA APPLICATION
GSD-15: Government Officials Notified**

State Form 51608 (R3 / 1-10)
INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

IDEM – Office of Air Quality – Permits Branch
100 N. Senate Avenue, MC 61-53 Room 1003
Indianapolis, IN 46204-2251
Telephone: (317) 233-0178 or
Toll Free: 1-800-451-6027 x30178 (within Indiana)
Facsimile Number: (317) 232-6749
www.IN.gov/idem

NOTES:

- The purpose of GSD-15 is to identify local government officials that are to be notified that an air permit application has been submitted.
- Detailed instructions for this form are available on the Air Permit Application Forms website.
- All information submitted to IDEM will be made available to the public unless it is submitted under a claim of confidentiality. Claims of confidentiality must be made at the time the information is submitted to IDEM, and must follow the requirements set out in 326 IAC 17.1-4-1. Failure to follow these requirements exactly will result in your information becoming a public record, available for public inspection.

Government Officials Notified

Use this table to identify local government officials that should be notified pursuant to Indiana Code (IC) 13-15-3-1 that an air permit application has been submitted. If you need additional space, you may make copies of this form.

1. Name: Anthony Copeland		2. Date Notified: 5/16/2024	
3. Title: Mayor (City of East Chicago)			
4. Address: 4527 Indianapolis Blvd			
City: East Chicago		State: IN	ZIP Code: 46312 –
5. Electronic Mail: yorta@eastchicago.com		6. Telephone Number: (219) 391 - 8200	
7. Method of Notification: <input checked="" type="checkbox"/> Telephone <input checked="" type="checkbox"/> Electronic Mail <input type="checkbox"/> Standard Mail <input type="checkbox"/> Other (specify):			
Name: Nikki Mika		Date Notified: 5/17/2024	
Title: Chief of Staff (North Township)			
Address: 5947 Hohman Avenue			
City: Hammond		State: IN	ZIP Code: 46320 –
Electronic Mail: mikan@ntto.net		Telephone Number: (219) 932 - 2530	
Method of Notification: <input checked="" type="checkbox"/> Telephone <input checked="" type="checkbox"/> Electronic Mail <input type="checkbox"/> Standard Mail <input type="checkbox"/> Other (specify):			
Name: Adrian Santos		Date Notified: 5/17/2024	
Title: Trustee (North Township)			
Address: 5947 Hohman Avenue			
City: Hammond		State: IN	ZIP Code: 46320 –
Electronic Mail: santosa@ntto.net		Telephone Number: (219) 932 - 2530	
Method of Notification: <input type="checkbox"/> Telephone <input checked="" type="checkbox"/> Electronic Mail <input type="checkbox"/> Standard Mail <input type="checkbox"/> Other (specify):			
Name:		Date Notified:	
Title:			
Address:			
City:		State:	ZIP Code: –
Electronic Mail:		Telephone Number: () -	
Method of Notification: <input type="checkbox"/> Telephone <input type="checkbox"/> Electronic Mail <input type="checkbox"/> Standard Mail <input type="checkbox"/> Other (specify):			

From: [Uhlir, Grayson](#)
To: [SURA, MEHUL](#)
Subject: RE: IDEM OAQ Contact Information for Application No. 089-47845-00732 for Lakeshore Terminal Railroad LLC
Date: Friday, May 17, 2024 11:30:48 AM
Attachments: [image001.png](#)
[image002.png](#)
[image003.png](#)
[image004.png](#)
[image005.png](#)
[image006.png](#)
[image007.png](#)
[image008.png](#)
[image009.png](#)
[image010.png](#)
[image602827.png](#)
[image837384.png](#)
[image895746.png](#)
[Lakeshore Terminal Railroad - GSD-14 Submittal.pdf](#)

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Mehul,

Please find attached the completed GSD-14 form. Let me know if you need anything else at this time.

Sincerely,
Grayson

Grayson Uhlir
Project Engineer

 **Weaver Consultants Group**

35 E. Wacker Drive | Suite 1250

Chicago, IL 60601

O: 312-922-1030 | F: 312-922-0201 | M: 708-870-0622

guhkir@wcgrp.com | www.wcgrp.com 



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From: SURA, MEHUL <MSURA@idem.IN.gov>

Sent: Friday, May 17, 2024 9:24 AM

To: Uhlir, Grayson <guhkir@wcgrp.com>

Subject: RE: IDEM OAQ Contact Information for Application No. 089-47845-00732 for Lakeshore

Terminal Railroad LLC

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Thank you

From: Uhler, Grayson <guhler@wcgrp.com>
Sent: Friday, May 17, 2024 10:21 AM
To: SURA, MEHUL <MSURA@idem.IN.gov>
Subject: RE: IDEM OAQ Contact Information for Application No. 089-47845-00732 for Lakeshore Terminal Railroad LLC

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Good morning,

I was able to notify North Township, and I updated the GSD-15 form accordingly (see attached). I will provide the GSD-14 form soon once I am able to reach the adjacent owners/occupants.

Thank you,
Grayson

Grayson Uhler
Project Engineer

 **Weaver Consultants Group**

35 E. Wacker Drive | Suite 1250

Chicago, IL 60601

O: [312-922-1030](tel:312-922-1030) | F: [312-922-0201](tel:312-922-0201) | M: [708-870-0622](tel:708-870-0622)

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From: Uhler, Grayson
Sent: Thursday, May 16, 2024 2:48 PM
To: SURA, MEHUL <MSURA@idem.IN.gov>

Subject: RE: IDEM OAQ Contact Information for Application No. 089-47845-00732 for Lakeshore Terminal Railroad LLC

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Thank you very much!

Please find attached an electronic copy of the emission calculations in excel format. Also, find attached the completed GSD-15 form. Note, I tried contacting Lake County as well as North Township, but the representatives I spoke to were rather confused about my notification and did not know how to direct it. However, I was able to successfully notify the Mayor of East Chicago's office – let me know if this is sufficient. We are still working to notify the adjacent owners/occupants and will provide the completed GSD-14 form soon.

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Grayson

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To: Uhlir, Grayson <guhli@wcgrp.com>

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Good morning,

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To expedite the review process, please e-mail me the electronic copy of your calculations (preferably in excel format) used as part of your application.

Based on my preliminary review of the application, please provide the following completed forms:

(1) GSD 14 - Owners and Occupants Notified form.

Please note that within ten (10) working days after submitting an application for a permit, the person that submitted the application for the permit shall make a reasonable effort to provide notice:

(1) to all owners of land that adjoins the land that is the subject of the permit application; or
(2) if the owner of land that adjoins the land that is the subject of the permit application does not occupy the land, to all occupants of the land.

(2) GSD-15 – Government Officials Notified

IDEM, OAQ will notify you when a draft permit has been submitted for public notice and/or when a final permit has been issued. As part of the notification, IDEM, OAQ will provide information on how to access the draft and/or final permit electronically on IDEM's website. If Lakeshore Terminal Railroad LLC would prefer to receive paper copies of the entire draft and/or final permit, please let me know prior to the end of the applicant review period. If you prefer to receive paper copies of the entire permit, IDEM, OAQ will mail a paper copy of the draft permit and/or original signed final permit to the source contact. If you do not request to receive paper copies of the entire permit, IDEM, OAQ will only mail a paper copy of the original signed final permit signature page to the source contact.

Please feel free to contact me at any time if you have questions, concerns, or important information regarding your permit. For your convenience, my section chief Madhurima Moulik may be contacted at 317-233-6663 or mmoulik@idem.in.gov.

Thank you in advance for your time and assistance. I look forward to working with you.



Mehul Sura
Environmental Engineer
IDEM, Air Permit Branch

(317) 233-6868 • MSURA@idem.in.gov

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**OAQ GENERAL SOURCE DATA APPLICATION
GSD-14: Owners and Occupants Notified**

State Form 51609 (R2 / 1-10)
INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

IDEM – Office of Air Quality – Permits Branch
100 N. Senate Avenue, MC 61-53 Room 1003
Indianapolis, IN 46204-2251
Telephone: (317) 233-0178 or
Toll Free: 1-800-451-6027 x30178 (within Indiana)
Facsimile Number: (317) 232-6749
www.IN.gov/idem

NOTES:

- The purpose of GSD-14 is to identify adjacent landowners and occupants that are to be notified that an air permit application has been submitted.
- Detailed instructions for this form are available on the Air Permit Application Forms website.
- All information submitted to IDEM will be made available to the public unless it is submitted under a claim of confidentiality. Claims of confidentiality must be made at the time the information is submitted to IDEM, and must follow the requirements set out in 326 IAC 17.1-4-1. Failure to follow these requirements exactly will result in your information becoming a public record, available for public inspection.

Owners And Occupants Notified

Use this table to identify adjacent landowners and occupants that you have notified of your intent to construct pursuant to Indiana Code (IC) 13-15-8. If you need additional space, you may make copies of this form.

1. Owner / Occupant Name: Kapital Steel		2. Date Notified: 5/16/2024
3. Address: 1215 East 143rd Street		
City: East Chicago	State: IN	ZIP Code: 46312 –
4. Electronic Mail: brianrusin@kapitalsteel.com	5. Telephone Number: (844) 527 - 4825	
6. Method of Notification: <input checked="" type="checkbox"/> Telephone <input checked="" type="checkbox"/> Electronic Mail <input type="checkbox"/> Standard Mail <input type="checkbox"/> Other (specify):		
Owner / Occupant Name: Tradebe Environmental Services		Date Notified: 5/17/2024
Address: 4343 Kennedy Avenue		
City: East Chicago	State: IN	ZIP Code: 46312 –
Electronic Mail: bryce.german@tradebe.com	Telephone Number: (219) 354 - 2398	
Method of Notification: <input checked="" type="checkbox"/> Telephone <input checked="" type="checkbox"/> Electronic Mail <input type="checkbox"/> Standard Mail <input type="checkbox"/> Other (specify):		
Owner / Occupant Name: ICO Polymers		Date Notified: 5/17/2024
Address: 4404 Euclid Avenue		
City: East Chicago	State: IN	ZIP Code: 46312 –
Electronic Mail: gdeleon@icopolymers.com	Telephone Number: (219) 354 - 2747	
Method of Notification: <input checked="" type="checkbox"/> Telephone <input checked="" type="checkbox"/> Electronic Mail <input type="checkbox"/> Standard Mail <input type="checkbox"/> Other (specify):		
Owner / Occupant Name: USA Pantas Tires LLC		Date Notified: 5/17/2024
Address: 1202 East Chicago Avenue		
City: East Chicago	State: IN	ZIP Code: 46312 –
Electronic Mail:	Telephone Number: (219) 256 - 8364	
Method of Notification: <input checked="" type="checkbox"/> Telephone <input type="checkbox"/> Electronic Mail <input type="checkbox"/> Standard Mail <input type="checkbox"/> Other (specify):		
Owner / Occupant Name: C & P Auto Repair		Date Notified: 5/17/2024
Address: 1106e East Chicago Avenue		
City: East Chicago	State: IN	ZIP Code: 46312 –
Electronic Mail:	Telephone Number: (219) 354 - 8344	
Method of Notification: <input checked="" type="checkbox"/> Telephone <input type="checkbox"/> Electronic Mail <input type="checkbox"/> Standard Mail <input type="checkbox"/> Other (specify):		



**OAQ GENERAL SOURCE DATA APPLICATION
GSD-14: Owners and Occupants Notified**

State Form 51609 (R2 / 1-10)

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

IDEM – Office of Air Quality – Permits Branch
100 N. Senate Avenue, MC 61-53 Room 1003
Indianapolis, IN 46204-2251
Telephone: (317) 233-0178 or
Toll Free: 1-800-451-6027 x30178 (within Indiana)
Facsimile Number: (317) 232-6749
www.IN.gov/idem

NOTES:

- The purpose of GSD-14 is to identify adjacent landowners and occupants that are to be notified that an air permit application has been submitted.
- Detailed instructions for this form are available on the Air Permit Application Forms website.
- All information submitted to IDEM will be made available to the public unless it is submitted under a claim of confidentiality. Claims of confidentiality must be made at the time the information is submitted to IDEM, and must follow the requirements set out in 326 IAC 17.1-4-1. Failure to follow these requirements exactly will result in your information becoming a public record, available for public inspection.

Owners And Occupants Notified		
Use this table to identify adjacent landowners and occupants that you have notified of your intent to construct pursuant to Indiana Code (IC) 13-15-8. If you need additional space, you may make copies of this form.		
1. Owner / Occupant Name: Mota Family Towing		2. Date Notified: 5/17/2024
3. Address: 1050 East Chicago Avenue		
City: East Chicago	State: IN	ZIP Code: 46312 –
4. Electronic Mail:	5. Telephone Number: (312) 730 - 5625	
6. Method of Notification: <input checked="" type="checkbox"/> Telephone <input type="checkbox"/> Electronic Mail <input type="checkbox"/> Standard Mail <input type="checkbox"/> Other (specify):		
Owner / Occupant Name: Macabi Auto Supply		Date Notified: 5/17/2024
Address: 1310 East Chicago Avenue		
City: East Chicago	State: IN	ZIP Code: 46312 –
Electronic Mail:	Telephone Number: (219) 678 - 2877	
Method of Notification: <input checked="" type="checkbox"/> Telephone <input type="checkbox"/> Electronic Mail <input type="checkbox"/> Standard Mail <input type="checkbox"/> Other (specify):		
Owner / Occupant Name: Caruthers Auto Sales		Date Notified: 5/17/2024
Address: 1218 East Chicago Avenue #20		
City: East Chicago	State: IN	ZIP Code: 46312 –
Electronic Mail:	Telephone Number: (219) 397 - 5925	
Method of Notification: <input checked="" type="checkbox"/> Telephone <input type="checkbox"/> Electronic Mail <input type="checkbox"/> Standard Mail <input type="checkbox"/> Other (specify):		
Owner / Occupant Name: Friedman Industries, Inc.		Date Notified: 5/17/2024
Address: 4303 Kennedy Avenue		
City: East Chicago	State: IN	ZIP Code: 46312 –
Electronic Mail:	Telephone Number: (219) 392 - 3400	
Method of Notification: <input checked="" type="checkbox"/> Telephone <input type="checkbox"/> Electronic Mail <input type="checkbox"/> Standard Mail <input type="checkbox"/> Other (specify):		
Owner / Occupant Name:		Date Notified:
Address:		
City:	State:	ZIP Code: –
Electronic Mail:	Telephone Number: () -	
Method of Notification: <input type="checkbox"/> Telephone <input type="checkbox"/> Electronic Mail <input type="checkbox"/> Standard Mail <input type="checkbox"/> Other (specify):		

From: [Uhlir, Grayson](#)
To: [SURA, MEHUL](#)
Subject: RE: IDEM OAQ Contact Information for Application No. 089-47845-00732 for Lakeshore Terminal Railroad LLC
Date: Tuesday, May 21, 2024 11:13:55 AM
Attachments: [image001.png](#)
[image002.png](#)
[image003.png](#)
[image004.png](#)
[image005.png](#)
[image006.png](#)
[image007.png](#)
[image008.png](#)
[image009.png](#)
[image010.png](#)
[image102475.png](#)
[image840789.png](#)
[image339905.png](#)

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Hi Mehul,

I received your voicemail and tried returning your call. Please let me know what time you are available today, and I will call back again.

Thank you,
Grayson

Grayson Uhlir
Project Engineer

 **Weaver Consultants Group**

35 E. Wacker Drive | Suite 1250

Chicago, IL 60601

O: 312-922-1030 | F: 312-922-0201 | M: 708-870-0622

guhli@wcgrp.com | www.wcgrp.com 



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From: Uhlir, Grayson

Sent: Friday, May 17, 2024 10:30 AM

To: SURA, MEHUL <MSURA@idem.IN.gov>

Subject: RE: IDEM OAQ Contact Information for Application No. 089-47845-00732 for Lakeshore

Terminal Railroad LLC

Mehul,

Please find attached the completed GSD-14 form. Let me know if you need anything else at this time.

Sincerely,
Grayson

From: SURA, MEHUL <MSURA@idem.IN.gov>
Sent: Friday, May 17, 2024 9:24 AM
To: Uhlir, Grayson <guhli@wcgrp.com>
Subject: RE: IDEM OAQ Contact Information for Application No. 089-47845-00732 for Lakeshore Terminal Railroad LLC

CAUTION: This email originated from outside your organization. Exercise caution when opening attachments or clicking links, especially from unknown senders.

Thank you

From: Uhlir, Grayson <guhli@wcgrp.com>
Sent: Friday, May 17, 2024 10:21 AM
To: SURA, MEHUL <MSURA@idem.IN.gov>
Subject: RE: IDEM OAQ Contact Information for Application No. 089-47845-00732 for Lakeshore Terminal Railroad LLC

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Good morning,

I was able to notify North Township, and I updated the GSD-15 form accordingly (see attached). I will provide the GSD-14 form soon once I am able to reach the adjacent owners/occupants.

Thank you,
Grayson

Grayson Uhlir
Project Engineer

 **Weaver Consultants Group**

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Chicago, IL 60601
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From: Uhlir, Grayson
Sent: Thursday, May 16, 2024 2:48 PM
To: SURA, MEHUL <MSURA@idem.IN.gov>
Subject: RE: IDEM OAQ Contact Information for Application No. 089-47845-00732 for Lakeshore Terminal Railroad LLC

Hi Mehul,

Thank you very much!

Please find attached an electronic copy of the emission calculations in excel format. Also, find attached the completed GSD-15 form. Note, I tried contacting Lake County as well as North Township, but the representatives I spoke to were rather confused about my notification and did not know how to direct it. However, I was able to successfully notify the Mayor of East Chicago's office – let me know if this is sufficient. We are still working to notify the adjacent owners/occupants and will provide the completed GSD-14 form soon.

Sincerely,
Grayson

From: SURA, MEHUL <MSURA@idem.IN.gov>
Sent: Thursday, May 16, 2024 9:17 AM
To: Uhlir, Grayson <guhlin@wcgrp.com>
Subject: IDEM OAQ Contact Information for Application No. 089-47845-00732 for Lakeshore Terminal Railroad LLC

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Good morning,

I am the permit writer assigned to the current application No. 089-47845-00732 for Lakeshore Terminal Railroad LLC. I would like to extend to you my contact information so that we may have continued communication until your new permit is issued. Please keep this information at hand. It is common for

questions to arise, and oftentimes, further clarification is needed during the permit review process.

To expedite the review process, please e-mail me the electronic copy of your calculations (preferably in excel format) used as part of your application.

Based on my preliminary review of the application, please provide the following completed forms:

- (1) GSD 14 - Owners and Occupants Notified form.

Please note that within ten (10) working days after submitting an application for a permit, the person that submitted the application for the permit shall make a reasonable effort to provide notice:

- (1) to all owners of land that adjoins the land that is the subject of the permit application; or
- (2) if the owner of land that adjoins the land that is the subject of the permit application does not occupy the land, to all occupants of the land.

- (2) GSD-15 – Government Officials Notified

IDEM, OAQ will notify you when a draft permit has been submitted for public notice and/or when a final permit has been issued. As part of the notification, IDEM, OAQ will provide information on how to access the draft and/or final permit electronically on IDEM's website. If Lakeshore Terminal Railroad LLC would prefer to receive paper copies of the entire draft and/or final permit, please let me know prior to the end of the applicant review period. If you prefer to receive paper copies of the entire permit, IDEM, OAQ will mail a paper copy of the draft permit and/or original signed final permit to the source contact. If you do not request to receive paper copies of the entire permit, IDEM, OAQ will only mail a paper copy of the original signed final permit signature page to the source contact.

Please feel free to contact me at any time if you have questions, concerns, or important information regarding your permit. For your convenience, my section chief Madhurima Moulik may be contacted at 317-233-6663 or mmoulik@idem.in.gov.

Thank you in advance for your time and assistance. I look forward to working with you.



Mehul Sura
Environmental Engineer
IDEM, Air Permit Branch

(317) 233-6868 • MSURA@idem.in.gov

[YouTube](#) | [LinkedIn](#) | [Facebook](#) | [Instagram](#) | [Twitter](#) | www.idem.IN.gov

Scan the QR code to leave your feedback.

We appreciate your input!



From: [Uhlir, Grayson](#)
To: [SURA, MEHUL](#)
Subject: RE: IDEM OAQ Contact Information for Application No. 089-47845-00732 for Lakeshore Terminal Railroad LLC
Date: Thursday, May 30, 2024 5:28:22 PM
Attachments: [image001.png](#)
[image002.png](#)
[image003.png](#)
[image004.png](#)
[image005.png](#)
[image006.png](#)
[image007.png](#)
[image008.png](#)
[image009.png](#)
[image010.png](#)
[image878618.png](#)
[image245996.png](#)
[image659388.png](#)
[Lakeshore Terminal Railroad - Emission Calculations - UPDATED 2024.05.30.xlsx](#)

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Hi Mehul,

I hope you're having a good week!

Please find attached the updated emission calculations for Lakeshore Terminal Railroad. Let me know if you would like to schedule a call tomorrow to discuss – I am generally available before 9:00am, between 10:00am – 12:30pm, and after 1:45pm (CT). Also, do not hesitate to reach out should you have any questions.

Best,
Grayson

Grayson Uhlir
Project Engineer

 **Weaver Consultants Group**

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Chicago, IL 60601

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Hi Mehul,

I received your voicemail and tried returning your call. Please let me know what time you are available today, and I will call back again.

Thank you,
Grayson

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Thank you,
Grayson

Grayson Uhler
Project Engineer

W Weaver Consultants Group

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Sent: Thursday, May 16, 2024 2:48 PM

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Sincerely,
Grayson

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Please feel free to contact me at any time if you have questions, concerns, or important information regarding your permit. For your convenience, my section chief Madhurima Moulik may be contacted at 317-233-6663 or mmoulik@idem.in.gov.

Thank you in advance for your time and assistance. I look forward to working with you.



Mehul Sura
Environmental Engineer
IDEM, Air Permit Branch

(317) 233-6868 • MSURA@idem.in.gov

 |  |  |  |  | www.idem.IN.gov

Scan the QR code to leave your feedback.

We appreciate your input!



Facility-wide Emissions
Lakeshore Terminal Railroad LLC
East Chicago, IN

Actual Emissions:

Process/Emission Unit	PM		CO		NOx		SO ₂		VOC		Max. Single HAP (tons/yr)	Total HAPs (tons/yr)
	(lbs/hr)	(tons/yr)	(lbs/hr)	(tons/yr)	(lbs/hr)	(tons/yr)	(lbs/hr)	(tons/yr)	(lbs/hr)	(tons/yr)		
Transloading Operation	--	--	--	--	--	--	--	--	1.23	2.56	1.12	1.12
Transloading (Fugitive)	--	--	--	--	--	--	--	--	0.15	0.31	0.31	0.31
Diesel Dispensing (DFD5) ²	--	--	--	--	--	--	--	--	<i>negligible</i>	<i>negligible</i>	--	--
Boiler 1 (B1)	0.04	0.08	0.41	0.86	0.49	1.02	3.0E-03	0.01	0.03	0.06	0.02	0.02
Boiler 2 (B2)	0.19	0.39	2.07	4.30	2.46	5.12	1.5E-02	0.03	0.14	0.28	0.09	0.10
Two HVAC Units	7.5E-04	1.5E-03	0.01	0.02	0.01	0.02	5.9E-05	1.2E-04	5.4E-04	1.1E-03	3.7E-04	3.8E-04
Five Heaters	0.01	0.02	0.10	0.21	0.12	0.25	7.4E-04	1.5E-03	0.01	0.01	4.6E-03	4.8E-03
Paved Roads (Fugitive)	0.47	2.05	--	--	--	--	--	--	--	--	--	--
Total (Excluding Fugitives):		0.49		5.39		6.42		0.04		2.91	1.23	1.24
Total (Including Fugitives):		2.54		5.39		6.42		0.04		3.23	1.55	1.55

Potential Emissions:

Process/Emission Unit	PM		CO		NOx		SO ₂		VOC		Max. Single HAP (tons/yr)	Total HAPs (tons/yr)
	(lbs/hr)	(tons/yr)	(lbs/hr)	(tons/yr)	(lbs/hr)	(tons/yr)	(lbs/hr)	(tons/yr)	(lbs/hr)	(tons/yr)		
Transloading Operation	--	--	--	--	--	--	--	--	2.05	8.99	8.99	8.99
Transloading (Fugitive)	--	--	--	--	--	--	--	--	0.15	0.66	0.66	0.66
Diesel Dispensing (DFD5) ²	--	--	--	--	--	--	--	--	<i>negligible</i>	<i>negligible</i>	--	--
Boiler 1 (B1)	0.04	0.16	0.41	1.81	0.49	2.16	2.95E-03	0.01	0.03	0.12	0.04	0.04
Boiler 2 (B2)	0.19	0.82	2.07	9.06	2.46	10.78	0.01	0.06	0.14	0.59	0.19	0.20
Two HVAC Units	7.45E-04	0.00	0.01	0.04	0.01	0.04	5.88E-05	2.58E-04	5.39E-04	0.00	7.73E-04	8.11E-04
Five Heaters	0.01	0.04	0.10	0.45	0.12	0.54	7.35E-04	3.22E-03	0.01	0.03	9.7E-03	0.01
Paved Roads (Fugitive)	0.43	1.88	--	--	--	--	--	--	--	--	--	--
Total (Excluding Fugitives):		1.03		11.35		13.52		0.08		9.73	9.23	9.24
Total (Including Fugitives):		2.90		11.35		13.52		0.08		10.39	9.89	9.90
Registration Thresholds:		5 - 25		25 - 100		10 - 25		10 - 25		10 - 25		
Major Source Thresholds:		100		100		100		100		100	10	25

Footnotes:

1. The potential emissions are below the major source thresholds and are within the registration threshold ranges.
2. The estimated diesel dispensing (DFD5) potential emissions are determined to be negligible (0.01 tons/yr).

Transloading Operation - VOC and HAP Emissions
Lakeshore Terminal Railroad LLC
East Chicago, IN

Parameters:

Maximum Throughput ¹ =	60,000 gal/day
Actual Expected Throughput ¹ =	24,000 gal/day
Maximum Annual Operating Hours ² =	8,760 hrs/yr
Expected Actual Annual Operating Hours ³ =	4,160 hrs/yr

Calculations: ⁴

$$E_{TO} = \sum_{x=1}^x \left(\frac{12.46 * S_i * P_i * M_i * G_i}{T_i * \left(1000 \frac{\text{gallons}}{\text{kgal}} \right) * (2000 \text{ lbs/ton})} \right)_x$$

- E_{TO} = Total VOC, Total HAPs, or Maximum Single HAP emissions from the transloading operation (tons/month)
- 12.46 = Factor to convert to units of lb/kgal of liquid loaded
- i = Each specific liquid transloaded in a month
- S_i = Saturation factor for type of liquid loading (AP 42, Table 5.2-1)
- P_i = True vapor pressure of liquid loaded (psia) from AP 42, Table 7.1-2 (or other valid source of chemical data)
- M_i = Average molecular weight of Total VOC, Total HAP, or Highest Single HAP vapors (lb/lb-mole) emitted from specific liquid loaded (AP 42, Table 7.1-2 or other source of chemical data)
- T_i = Temperature of liquid loaded °R (°F + 460)
- G_i = Total volume of liquid loaded into each rail tank car or tanker trailer (gallons)

Based on this equation, the loading loss factor (L_i - lb/Kgal) is defined as: 12.46 x S x P x MW / T

Loading Loss Factor: ⁵

S =	0.6
P =	1.784 psia
M =	32.0 lb/lb-mole
T =	520 R
L_{L,max} =	0.82 lb/Kgal

Emissions (lbs/hr) = Throughput (gal/day) x Liquid Fraction x Loading Loss Factor (lb/Kgal) / 1,000 / Daily Operating Hours (hrs/day)
Emissions (TPY) = Emissions (lbs/hr) / 2,000 (lbs/ton) x Annual Operating Hours (hrs/yr)

Emissions:

Pollutant	Potential Emissions		Actual Emissions	
	(lbs/hr)	(TPY)	(lbs/hr)	(TPY)
VOC	2.05	8.99	1.23	2.56
Max. Single HAP ⁶	2.05	8.99	0.54	1.12
Total HAPs ⁶	2.05	8.99	0.54	1.12

Notes:

- The throughput information was provided by the facility. Maximum throughput is based on a worst-case assumption of transloading ten (10) 6,000-gallon tank truck loads of liquid per day. Expected throughput is based on transloading four (4) 6,000-gallon truck loads of liquid per day.
- The maximum annual operating hours are assumed to be 8,760 operating hr/yr.
- The expected actual annual operating hours are assumed to be 4,160 operating hr/yr based on 16 operating hours per day, 5 operating days per week, and 52 operating weeks per year.
- The transloading VOC and HAPs emissions are calculated using the equation provided in Condition D.1.8(e) of the FESOP Minor Revision No. 089-43729-00469 for Lakeshore Railcar & Tanker Services LLC.
- For a worst-case estimate, it was assumed that all the material transloaded is methanol. This was based on the loading loss parameters for the materials transloaded in Q1 of the 2024 calendar year (see following pages) by Lakeshore Railcar & Tanker Services LLC. Methanol is 100% HAP.

2024 Q1 Transloading Emissions

Data Entry

Month/Date ¹	Permit Substance Name	Permit Substance Category	CAS Number	VOC (Yes/No)	HAPs (Yes/No)	Volume Loaded Per Day (Kgal/day)	Number of Cars (cars/day)	Loading Loss Factor ² (lbs/Kgal)	VOC Content (wt.%)	HAPs Content (wt.%)	VOC Emissions (lbs/day)	HAPs Emissions (lbs/day)	Other Emissions (lbs/day)	Saturation Factor, S (No unit)	True Vapor Pressure, P (psia)	Vapor Molecular Weight, MW (lb/lb mole)	Bulk Liquid Temperature, T (°R)
January 2024¹ (Based on LSRS Records)																	
1/2/2024	Methanol	List 1 Methanol	67-56-1	Yes	Yes	7.000	2	0.8207	100%	100.00%	5.75	5.75	0.00	0.60	1.78	32.00	520
1/4/2024	Diesel Fuel, generic (used for Spirdane D15)	List 1 RPP Diesel Fuel	68334-30-5	Yes	Yes	7.039	1	0.0168	100%	1.28%	0.12	1.51E-03	0.00	0.60	0.01	130.00	520
1/5/2024	Used Oil	List 1 RPP Motor Oil	68553-00-4	Yes	Yes	5.633	1	0.0002	100%	17.00%	9.23E-04	1.57E-04	0.00	0.60	6.00E-05	190.00	520
1/5/2024	Used Oil	List 1 RPP Motor Oil	68553-00-4	Yes	Yes	7.565	1	0.0002	100%	17.00%	1.24E-03	2.11E-04	0.00	0.60	6.00E-05	190.00	520
1/5/2024	Used Oil	List 1 RPP Motor Oil	68553-00-4	Yes	Yes	6.670	1	0.0002	100%	17.00%	1.09E-03	1.86E-04	0.00	0.60	6.00E-05	190.00	520
1/5/2024	Used Oil	List 1 RPP Motor Oil	68553-00-4	Yes	Yes	6.800	1	0.0002	100%	17.00%	1.11E-03	1.89E-04	0.00	0.60	6.00E-05	190.00	520
1/8/2024	Distillate, generic (used for Distillation Feedstock)	List 1 RPP Distillate	64741-59-9	Yes	Yes	5.500	3	0.0001	100%	17.84%	2.82E-04	5.02E-05	0.00	0.60	4.45E-05	80.00	520
1/8/2024	Diesel Fuel, generic (used for Spirdane D40)	List 1 Individual	68334-30-5	Yes	Yes	6.506	1	0.0025	100%	100.00%	0.02	0.02	0.00	0.60	1.16E-03	150.00	520
1/9/2024	Diesel Fuel, generic (used for Spirdane D40)	List 1 Individual	68334-30-5	Yes	Yes	6.940	1	0.0025	100%	100.00%	0.02	0.02	0.00	0.60	1.16E-03	150.00	520
1/10/2024	Used Oil	List 1 RPP Motor Oil	68553-00-4	Yes	Yes	7.056	1	0.0002	100%	17.00%	1.16E-03	1.97E-04	0.00	0.60	6.00E-05	190.00	520
1/10/2024	Used Oil	List 1 RPP Motor Oil	68553-00-4	Yes	Yes	6.534	1	0.0002	100%	17.00%	1.07E-03	1.82E-04	0.00	0.60	6.00E-05	190.00	520
1/10/2024	Used Oil	List 1 RPP Motor Oil	68553-00-4	Yes	Yes	6.300	1	0.0002	100%	17.00%	1.03E-03	1.76E-04	0.00	0.60	6.00E-05	190.00	520
1/10/2024	Used Oil	List 1 RPP Motor Oil	68553-00-4	Yes	Yes	6.202	1	0.0002	100%	17.00%	1.02E-03	1.73E-04	0.00	0.60	6.00E-05	190.00	520
1/11/2024	Distillate, generic (used for Distillation Feedstock)	List 1 RPP Distillate	64741-59-9	Yes	Yes	5.500	1	0.0001	100%	17.84%	2.82E-04	5.02E-05	0.00	0.60	4.45E-05	80.00	520
1/11/2024	Methanol	List 1 Methanol	67-56-1	Yes	Yes	6.900	1	0.8207	100%	100.00%	5.66	5.66	0.00	0.60	1.78	32.00	520
1/11/2024	Diesel Fuel, generic (used for Spirdane D40)	List 1 Individual	68334-30-5	Yes	Yes	6.913	1	0.0025	100%	100.00%	0.02	0.02	0.00	0.60	1.16E-03	150.00	520
1/11/2024	Used Oil	List 1 RPP Motor Oil	68553-00-4	Yes	Yes	7.659	1	0.0002	100%	17.00%	1.26E-03	2.13E-04	0.00	0.60	6.00E-05	190.00	520
1/11/2024	Used Oil	List 1 RPP Motor Oil	68553-00-4	Yes	Yes	5.590	1	0.0002	100%	17.00%	9.16E-04	1.56E-04	0.00	0.60	6.00E-05	190.00	520
1/11/2024	Used Oil	List 1 RPP Motor Oil	68553-00-4	Yes	Yes	7.851	1	0.0002	100%	17.00%	1.29E-03	2.19E-04	0.00	0.60	6.00E-05	190.00	520
1/16/2024	Distillate, generic (used for Distillation Feedstock)	List 1 RPP Distillate	64741-59-9	Yes	Yes	5.500	1	0.0001	100%	17.84%	2.82E-04	5.02E-05	0.00	0.60	4.45E-05	80.00	520
1/16/2024	Diesel Fuel, generic (used for Spirdane D15)	List 1 RPP Diesel Fuel	68334-30-5	Yes	Yes	7.021	1	0.0168	100%	1.28%	0.12	1.51E-03	0.00	0.60	0.01	130.00	520
1/16/2024	Diesel Fuel, generic (used for Spirdane D40)	List 1 Individual	68334-30-5	Yes	Yes	2.202	1	0.0025	100%	100.00%	0.01	0.01	0.00	0.60	1.16E-03	150.00	520
1/16/2024	Used Oil	List 1 RPP Motor Oil	68553-00-4	Yes	Yes	6.548	1	0.0002	100%	17.00%	1.07E-03	1.82E-04	0.00	0.60	6.00E-05	190.00	520
1/17/2024	Diesel Fuel, generic (used for Spirdane D40)	List 1 Individual	68334-30-5	Yes	Yes	4.000	1	0.0025	100%	100.00%	0.01	0.01	0.00	0.60	1.16E-03	150.00	520
1/17/2024	Used Oil	List 1 RPP Motor Oil	68553-00-4	Yes	Yes	6.800	1	0.0002	100%	17.00%	1.11E-03	1.89E-04	0.00	0.60	6.00E-05	190.00	520
1/17/2024	Used Oil	List 1 RPP Motor Oil	68553-00-4	Yes	Yes	6.470	1	0.0002	100%	17.00%	1.06E-03	1.80E-04	0.00	0.60	6.00E-05	190.00	520
1/17/2024	Used Oil	List 1 RPP Motor Oil	68553-00-4	Yes	Yes	5.637	1	0.0002	100%	17.00%	9.24E-04	1.57E-04	0.00	0.60	6.00E-05	190.00	520
1/17/2024	Used Oil	List 1 RPP Motor Oil	68553-00-4	Yes	Yes	6.548	1	0.0002	100%	17.00%	1.07E-03	1.82E-04	0.00	0.60	6.00E-05	190.00	520
1/18/2024	Used Oil	List 1 RPP Motor Oil	68553-00-4	Yes	Yes	5.845	1	0.0002	100%	17.00%	9.58E-04	1.63E-04	0.00	0.60	6.00E-05	190.00	520
1/18/2024	Used Oil	List 1 RPP Motor Oil	68553-00-4	Yes	Yes	6.548	2	0.0002	100%	17.00%	1.07E-03	1.82E-04	0.00	0.60	6.00E-05	190.00	520
1/18/2024	Used Oil	List 1 RPP Motor Oil	68553-00-4	Yes	Yes	7.909	1	0.0002	100%	17.00%	1.30E-03	2.20E-04	0.00	0.60	6.00E-05	190.00	520
1/19/2024	Methanol	List 1 Methanol	67-56-1	Yes	Yes	6.787	1	0.8207	100%	100.00%	5.57	5.57	0.00	0.60	1.78	32.00	520
1/19/2024	Diesel Fuel, generic (used for Spirdane D40)	List 1 Individual	68334-30-5	Yes	Yes	3.076	1	0.0025	100%	100.00%	0.01	0.01	0.00	0.60	1.16E-03	150.00	520
1/19/2024	Used Oil	List 1 RPP Motor Oil	68553-00-4	Yes	Yes	5.686	1	0.0002	100%	17.00%	9.32E-04	1.58E-04	0.00	0.60	6.00E-05	190.00	520
1/19/2024	Used Oil	List 1 RPP Motor Oil	68553-00-4	Yes	Yes	7.025	1	0.0002	100%	17.00%	1.15E-03	1.96E-04	0.00	0.60	6.00E-05	190.00	520
1/19/2024	Used Oil	List 1 RPP Motor Oil	68553-00-4	Yes	Yes	7.909	1	0.0002	100%	17.00%	1.30E-03	2.20E-04	0.00	0.60	6.00E-05	190.00	520
1/19/2024	Used Oil	List 1 RPP Motor Oil	68553-00-4	Yes	Yes	7.025	1	0.0002	100%	17.00%	1.15E-03	1.96E-04	0.00	0.60	6.00E-05	190.00	520
1/22/2024	Used Oil	List 1 RPP Motor Oil	68553-00-4	Yes	Yes	8.093	1	0.0002	100%	17.00%	1.33E-03	2.25E-04	0.00	0.60	6.00E-05	190.00	520
1/22/2024	Used Oil	List 1 RPP Motor Oil	68553-00-4	Yes	Yes	6.800	2	0.0002	100%	17.00%	1.11E-03	1.89E-04	0.00	0.60	6.00E-05	190.00	520
1/22/2024	Used Oil	List 1 RPP Motor Oil	68553-00-4	Yes	Yes	5.420	1	0.0002	100%	17.00%	8.88E-04	1.51E-04	0.00	0.60	6.00E-05	190.00	520
1/23/2024	Diesel Fuel, generic (used for Spirdane D40)	List 1 Individual	68334-30-5	Yes	Yes	6.940	1	0.0025	100%	100.00%	0.02	0.02	0.00	0.60	1.16E-03	150.00	520
1/25/2024	Diesel Fuel, generic (used for Spirdane D40)	List 1 Individual	68334-30-5	Yes	Yes	7.383	1	0.0025	100%	100.00%	0.02	0.02	0.00	0.60	1.16E-03	150.00	520
1/26/2024	Distillate, generic (used for Distillation Feedstock)	List 1 RPP Distillate	64741-59-9	Yes	Yes	7.073	1	0.0001	100%	17.84%	3.62E-04	6.46E-05	0.00	0.60	4.45E-05	80.00	520
1/26/2024	Distillate, generic (used for Distillation Feedstock)	List 1 RPP Distillate	64741-59-9	Yes	Yes	7.500	1	0.0001	100%	17.84%	0.00	0.00	0.00	0.60	4.45E-05	80.00	520
1/26/2024	Methanol	List 1 Methanol	67-56-1	Yes	Yes	7.000	1	0.8207	100%	100.00%	5.75	5.75	0.00	0.60	1.78	32.00	520
1/29/2024	Distillate, generic (used for Distillation Feedstock)	List 1 RPP Distillate	64741-59-9	Yes	Yes	4.000	1	0.0001	100%	17.84%	2.05E-04	3.65E-05	0.00	0.60	4.45E-05	80.00	520
1/29/2024	Distillate, generic (used for Distillation Feedstock)	List 1 RPP Distillate	64741-59-9	Yes	Yes	6.100	1	0.0001	100%	17.84%	3.12E-04	5.57E-05	0.00	0.60	4.45E-05	80.00	520
1/30/2024	EPON Resin 828 (used for Hot Resin Solution)	Non-List 1 Individual	25068-38-6	Yes	No	5.976	1	0.0041	100%	0.00%	0.02	0.00E+00	0.00	0.60	4.35E-04	650.00	520
1/30/2024	Diesel Fuel, generic (used for Spirdane D40)	List 1 Individual	68334-30-5	Yes	Yes	6.930	1	0.0025	100%	100.00%	0.02	0.02	0.00	0.60	1.16E-03	150.00	520
1/31/2024	EPON Resin 828 (used for Hot Resin Solution)	Non-List 1 Individual	25068-38-6	Yes	No	5.976	1	0.0041	100%	0.00%	0.02	0.00E+00	0.00	0.60	4.35E-04	650.00	520

(Kgal/month)	Total Cars
351.051	55

Monthly Total	VOC E _{T0}	HAP E _{T0}	Other E _{T0}
(lbs)	23.166	22.859	0.000
(tons)	0.012	0.011	0.000

2024 Q1 Transloading Emissions

Data Entry

Month/Date ¹	Permit Substance Name	Permit Substance Category	CAS Number	VOC (Yes/No)	HAPs (Yes/No)	Volume Loaded Per Day (Kgal/day)	Number of Cars (cars/day)	Loading Loss Factor ² (lbs/Kgal)	VOC Content (wt.%)	HAPs Content (wt.%)	VOC Emissions (lbs/day)	HAPs Emissions (lbs/day)	Other Emissions (lbs/day)	Saturation Factor, S (No unit)	True Vapor Pressure, P (psia)	Vapor Molecular Weight, MW (lb/lb mole)	Bulk Liquid Temperature, T (°R)
February 2024¹ (Based on LSRS Records)																	
2/1/2024	Methanol	List 1 Methanol	67-56-1	Yes	Yes	7.000	1	0.8207	100%	100.00%	5.75	5.75	0.00	0.60	1.78	32.00	520
2/1/2024	EPON Resin 828 (used for Hot Resin Solution)	Non-List 1 Individual	25068-38-6	Yes	No	6.184	1	0.0041	100%	0.00%	0.03	0.00E+00	0.00	0.60	4.35E-04	650.00	520
2/2/2024	EPON Resin 828 (used for Hot Resin Solution)	Non-List 1 Individual	25068-38-6	Yes	No	5.524	1	0.0041	100%	0.00%	0.02	0.00E+00	0.00	0.60	4.35E-04	650.00	520
2/5/2024	Diesel Fuel, generic (used for Spirdane D40)	List 1 Individual	68334-30-5	Yes	Yes	3.846	1	0.0025	100%	100.00%	0.01	0.01	0.00	0.60	1.16E-03	150.00	520
2/5/2024	Diesel Fuel, generic (used for Spirdane D40)	List 1 Individual	68334-30-5	Yes	Yes	7.374	1	0.0025	100%	100.00%	0.02	0.02	0.00	0.60	1.16E-03	150.00	520
2/9/2024	EPON Resin 828 (used for Hot Resin Solution)	Non-List 1 Individual	25068-38-6	Yes	No	5.976	1	0.0041	100%	0.00%	0.02	0.00E+00	0.00	0.60	4.35E-04	650.00	520
2/9/2024	EPON Resin 828 (used for Hot Resin Solution)	Non-List 1 Individual	25068-38-6	Yes	No	6.184	1	0.0041	100%	0.00%	0.03	0.00E+00	0.00	0.60	4.35E-04	650.00	520
2/9/2024	Methanol	List 1 Methanol	67-56-1	Yes	Yes	7.000	1	0.8207	100%	100.00%	5.75	5.75	0.00	0.60	1.78	32.00	520
2/12/2024	EPON Resin 828 (used for Hot Resin Solution)	Non-List 1 Individual	25068-38-6	Yes	No	6.184	1	0.0041	100%	0.00%	0.03	0.00E+00	0.00	0.60	4.35E-04	650.00	520
2/12/2024	Diesel Fuel, generic (used for Spirdane D40)	List 1 Individual	68334-30-5	Yes	Yes	6.000	1	0.0025	100%	100.00%	0.02	0.02	0.00	0.60	1.16E-03	150.00	520
2/13/2024	EPON Resin 828 (used for Hot Resin Solution)	Non-List 1 Individual	25068-38-6	Yes	No	4.782	1	0.0041	100%	0.00%	0.02	0.00E+00	0.00	0.60	4.35E-04	650.00	520
2/13/2024	Diesel Fuel, generic (used for VM & P Max 12)	List 1 RPP Diesel Fuel	68334-30-5	Yes	Yes	7.194	1	0.0168	100%	1.28%	0.12	1.54E-03	0.00	0.60	0.01	130.00	520
2/14/2024	Distillate, generic (used for Distillation Feedstock)	List 1 RPP Distillate	64741-59-9	Yes	Yes	5.000	1	0.0001	100%	17.84%	2.56E-04	4.57E-05	0.00	0.60	4.45E-05	80.00	520
2/14/2024	Diesel Fuel, generic (used for Spirdane D15)	List 1 RPP Diesel Fuel	68334-30-5	Yes	Yes	6.800	1	0.0168	100%	1.28%	0.11	1.46E-03	0.00	0.60	0.01	130.00	520
2/14/2024	Diesel Fuel, generic (used for Spirdane D40)	List 1 Individual	68334-30-5	Yes	Yes	6.937	1	0.0025	100%	100.00%	0.02	0.02	0.00	0.60	1.16E-03	150.00	520
2/14/2024	Diesel Fuel, generic (used for Spirdane D40)	List 1 Individual	68334-30-5	Yes	Yes	7.402	1	0.0025	100%	100.00%	0.02	0.02	0.00	0.60	1.16E-03	150.00	520
2/15/2024	Methanol	List 1 Methanol	67-56-1	Yes	Yes	7.000	1	0.8207	100%	100.00%	5.75	5.75	0.00	0.60	1.78	32.00	520
2/15/2024	Diesel Fuel, generic (used for VM & P Max 12)	List 1 RPP Diesel Fuel	68334-30-5	Yes	Yes	7.194	1	0.0168	100%	1.28%	0.12	1.54E-03	0.00	0.60	0.01	130.00	520
2/16/2024	Used Oil	List 1 RPP Motor Oil	68553-00-4	Yes	Yes	5.866	1	0.0002	100%	17.00%	9.61E-04	1.63E-04	0.00	0.60	6.00E-05	190.00	520
2/16/2024	Used Oil	List 1 RPP Motor Oil	68553-00-4	Yes	Yes	6.548	1	0.0002	100%	17.00%	1.07E-03	1.82E-04	0.00	0.60	6.00E-05	190.00	520
2/16/2024	Used Oil	List 1 RPP Motor Oil	68553-00-4	Yes	Yes	6.659	1	0.0002	100%	17.00%	1.09E-03	1.86E-04	0.00	0.60	6.00E-05	190.00	520
2/16/2024	Used Oil	List 1 RPP Motor Oil	68553-00-4	Yes	Yes	6.900	1	0.0002	100%	17.00%	1.13E-03	1.92E-04	0.00	0.60	6.00E-05	190.00	520
2/19/2024	Diesel Fuel, generic (used for Spirdane D15)	List 1 RPP Diesel Fuel	68334-30-5	Yes	Yes	7.039	1	0.0168	100%	1.28%	0.12	1.51E-03	0.00	0.60	0.01	130.00	520
2/21/2024	Diesel Fuel, generic (used for Spirdane D15)	List 1 RPP Diesel Fuel	68334-30-5	Yes	Yes	3.000	1	0.0168	100%	1.28%	0.05	6.44E-04	0.00	0.60	0.01	130.00	520
2/23/2024	Methanol	List 1 Methanol	67-56-1	Yes	Yes	7.000	1	0.8207	100%	100.00%	5.75	5.75	0.00	0.60	1.78	32.00	520
2/27/2024	Distillate, generic (used for Distillation Feedstock)	List 1 RPP Distillate	64741-59-9	Yes	Yes	5.300	1	0.0001	100%	17.84%	2.71E-04	4.84E-05	0.00	0.60	4.45E-05	80.00	520
2/29/2024	Distillate, generic (used for Distillation Feedstock)	List 1 RPP Distillate	64741-59-9	Yes	Yes	5.200	1	0.0001	100%	17.84%	2.66E-04	4.75E-05	0.00	0.60	4.45E-05	80.00	520
2/29/2024	Diesel Fuel, generic (used for VM & P Max 12)	List 1 RPP Diesel Fuel	68334-30-5	Yes	Yes	7.194	1	0.0168	100%	1.28%	0.12	1.54E-03	0.00	0.60	0.01	130.00	520
2/29/2024	Diesel Fuel, generic (used for VM & P Max 12)	List 1 RPP Diesel Fuel	68334-30-5	Yes	Yes	6.005	1	0.0168	100%	1.28%	0.10	1.29E-03	0.00	0.60	0.01	130.00	520

(Kgal/month)	Total Cars
180.292	29

Monthly Total	VOC E _{T0}	HAP E _{T0}	Other E _{T0}
(lbs)	23.953	23.070	0.000
(tons)	0.012	0.012	0.000

March 2024¹ (Based on LSRS Records)

3/8/2024	Diesel Fuel, generic (used for Spirdane D40)	List 1 Individual	68334-30-5	Yes	Yes	7.402	1	0.0025	100%	100.00%	0.02	0.02	0.00	0.60	1.16E-03	150.00	520
3/12/2024	Used Oil	List 1 RPP Motor Oil	68553-00-4	Yes	Yes	7.029	1	0.0002	100%	17.00%	1.15E-03	1.96E-04	0.00	0.60	6.00E-05	190.00	520
3/12/2024	Used Oil	List 1 RPP Motor Oil	68553-00-4	Yes	Yes	7.028	1	0.0002	100%	17.00%	1.15E-03	1.96E-04	0.00	0.60	6.00E-05	190.00	520
3/12/2024	Used Oil	List 1 RPP Motor Oil	68553-00-4	Yes	Yes	5.567	1	0.0002	100%	17.00%	9.12E-04	1.55E-04	0.00	0.60	6.00E-05	190.00	520
3/12/2024	Used Oil	List 1 RPP Motor Oil	68553-00-4	Yes	Yes	6.495	1	0.0002	100%	17.00%	1.06E-03	1.81E-04	0.00	0.60	6.00E-05	190.00	520
3/14/2024	Methanol	List 1 Methanol	67-56-1	Yes	Yes	7.000	1	0.8207	100%	100.00%	5.75	5.75	0.00	0.60	1.78	32.00	520
3/15/2024	Methanol	List 1 Methanol	67-56-1	Yes	Yes	7.000	1	0.8207	100%	100.00%	5.75	5.75	0.00	0.60	1.78	32.00	520
3/18/2024	Diesel Fuel, generic (used for Spirdane D15)	List 1 RPP Diesel Fuel	68334-30-5	Yes	Yes	7.031	1	0.0168	100%	1.28%	0.12	1.51E-03	0.00	0.60	0.01	130.00	520
3/18/2024	Used Oil	List 1 RPP Motor Oil	68553-00-4	Yes	Yes	6.577	1	0.0002	100%	17.00%	1.08E-03	1.83E-04	0.00	0.60	6.00E-05	190.00	520
3/18/2024	Used Oil	List 1 RPP Motor Oil	68553-00-4	Yes	Yes	6.905	1	0.0002	100%	17.00%	1.13E-03	1.92E-04	0.00	0.60	6.00E-05	190.00	520
3/19/2024	Diesel Fuel, generic (used for Spirdane D40)	List 1 Individual	68334-30-5	Yes	Yes	3.000	1	0.0025	100%	100.00%	0.01	0.01	0.00	0.60	1.16E-03	150.00	520
3/19/2024	Used Oil	List 1 RPP Motor Oil	68553-00-4	Yes	Yes	6.910	1	0.0002	100%	17.00%	1.13E-03	1.93E-04	0.00	0.60	6.00E-05	190.00	520
3/19/2024	Used Oil	List 1 RPP Motor Oil	68553-00-4	Yes	Yes	6.056	1	0.0002	100%	17.00%	0.00	0.00	0.00	0.60	6.00E-05	190.00	520
3/22/2024	Methanol	List 1 Methanol	67-56-1	Yes	Yes	7.000	1	0.8207	100%	100.00%	5.75	5.75	0.00	0.60	1.78	32.00	520
3/24/2024	Distillate, generic (used for Distillation Feedstock)	List 1 RPP Distillate	64741-59-9	Yes	Yes	5.600	1	0.0001	100%	17.84%	2.87E-04	5.11E-05	0.00	0.60	4.45E-05	80.00	520
3/24/2024	Distillate, generic (used for Distillation Feedstock)	List 1 RPP Distillate	64741-59-9	Yes	Yes	5.500	1	0.0001	100%	17.84%	2.82E-04	5.02E-05	0.00	0.60	4.45E-05	80.00	520
3/25/2024	Diesel Fuel, generic (used for Spirdane D40)	List 1 Individual	68334-30-5	Yes	Yes	6.940	1	0.0025	100%	100.00%	0.02	0.02	0.00	0.60	1.16E-03	150.00	520
3/26/2024	Diesel Fuel, generic (used for VM & P Max 12)	List 1 RPP Diesel Fuel	68334-30-5	Yes	Yes	7.246	2	0.0168	100%	1.28%	0.12	1.56E-03	0.00	0.60	0.01	130.00	520

(Kgal/month)	Total Cars
123.532	19

Monthly Total	VOC E _{T0}	HAP E _{T0}	Other E _{T0}
(lbs)	17.528	17.283	0.000
(tons)	0.009	0.009	0.000

Footnotes:

- The operation date, substance name, and transloading volume loaded were based on the monthly transload worksheets provided by the facility for January, February, and March of 2024.
- The loading loss factor L_i (lbs/gal) was calculated based on the saturation factor (S) from AP-42 Table 5.2-1, true vapor pressure (P) in psia, molecular weight of vapors (MW), bulk liquid temperature of 520 R using the following equation from AP-42 Section 5.2.1:
 Equation (1) : L_i = 12.46 S x P x MW / T.

Transloading Operation - Fugitive Emissions
Lakeshore Terminal Railroad LLC
East Chicago, IN

Parameters:

Equipment Type ¹	Maximum No. of Units per Hour ¹	Emission Factor (kg/hr per source) ²	VOC Fraction ⁶
Valves	0	0.00403	1.0
Pump Seals	0	0.0199	1.0
Compressor Seals	0	0.228	1.0
Pressure Relief Valves	0.63	0.104	1.0
Connectors	1.67	0.00183	1.0
Open-ended Lines	0	0.0017	1.0
Sampling Connections	0	0.015	1.0

Maximum Annual Operating Hours ³ = 8,760 hrs/yr
 Expected Actual Annual Operating Hours ⁴ = 4,160 hrs/yr
 Conversion = 2.20462 lbs/kg

Calculations: ⁵

$$E_{\text{TOC}} = F_A \times WF_{\text{TOC}} \times N$$

E_{TOC} = Emission rate of VOC from all equipment in the stream of a given equipment type (kg/hr).

F_A = Applicable average emission factor for the equipment type (kg/hr per source).

WF_{TOC} ⁶ = Average weight fraction of VOC in the stream.

N = Number of pieces of the applicable equipment in the stream.

Emissions:

Pollutant	Potential Emissions		Actual Emissions	
	(lbs/hr)	(TPY)	(lbs/hr)	(TPY)
VOC	0.15	0.66	0.15	0.31
Max. Single HAP ⁶	0.15	0.66	0.15	0.31
Total HAPs ⁶	0.15	0.66	0.15	0.31

Notes:

- The maximum number of units per hour assumes a worse-case estimate of transloading ten (10) 6,000-gallon tank truck loads of liquid per day, one (1) pressure relief valve per transloading vessel [conservatively assuming a maximum of 15 transloading vessels are involved per day], four (4) connectors per transloading event, 365 days of transloading per year, and 8,760 operating hrs/yr.
- The emission factors were taken from the EPA's Emission Inventory Improvement Program (EIIP), Volume II, Chapter 4 - Preferred and Alternative Methods for Estimating Fugitive Emission from Equipment Leaks, Table 4.5-1 - SOCM I Average Emission Factors.
- The maximum annual operating hours are assumed to be 8,760 operating hrs/yr.
- The expected actual annual operating hours are assumed to be 4,160 operating hrs/yr based on 16 operating hours per day, 5 operating days per week, and 52 operating weeks per year.
- The VOC emissions were calculated based on the EIIP, Volume II, Chapter 4 - Preferred and Alternative Methods for Estimating Fugitive Emission from Equipment Leaks, Equation 4.5-1.
- For a worst-case estimate, it was assumed that all the material transloaded is methanol. This was based on the loading loss parameters for the materials transloaded in Q1 of the 2024 calendar year (see previous pages) by Lakeshore Railcar & Tanker Services LLC. Methanol is 100% VOC and 100% HAP.

Diesel Dispensing DFD5 - VOC Emissions
Lakeshore Terminal Railroad LLC
East Chicago, IN

Parameters:

Annual Operating Hours = 8,760 hr/yr

Emissions:

Emission Unit	Max. Throughput ¹	VOC Emissions ^{2,3}	VOC Emissions	
	(gal/yr)	(lb/yr)	(lb/hr)	(tons/yr)
10,500-gallon Diesel Dispensing	1,277,500	22.57	2.6E-03	0.01

Footnotes:

1. The maximum throughput was based on the FESOP Minor Revision No. 089-43729-00469 for Lakeshore Railcar & Tanker Services LLC and 8,760 operating hours per year.
2. Working loss VOC emissions were estimated using the EIP Equation for Material Loss (Volume II, Chapter 8, Equation 8.4-1).
3. Breathing loss VOC emissions were estimated using AP-42, Chapter 7.1, Equation 1-2. Tank dimensions were approximated.

Tank Breathing Loss Emissions - Diesel Dispensing DFD5
Lakeshore Terminal Railroad LLC
East Chicago, IN

Parameters:

Description: Diesel Dispensing
 Capacity: 10,500 gallons
 Maximum Daily Throughput: 3,500 gallons/day
 Maximum Annual Throughput: 1,277,500 gallons/yr

Standing Loss Calculations	
$L_s = 365 \cdot V_v \cdot W_v \cdot K_E \cdot K_S$	(AP-42, Chap 7.1, eq. 1-2)

Vapor Space Volume V_v	
Tank Size	10,500 gallons
Tank Size	1,404 ft ³
Tank Diameter	8.0 ft
Tank Length	27.0 ft
Effective Tank Diameter (D_E)	16.6 ft
Effective Tank Height (H_E)	6.3 ft
Average Fill	5,250 gallons
V_v	679 ft ³

Vapor Density W_v (at average liquid temperature)	
$W_v = (M_v \cdot P_{VA}) / (R \cdot T_{LA})$	(AP-42, 7.1, eq. 1-21)
Average liquid temperature:	54.9 °F
Calculate M_v & P_v	

Chemical	Wt% ¹	Molecular Wt ¹	VP @ Avg. Liquid Temp (T_{LA}) ² (psia)	Moles	Mole %	Partial Pressure @ Avg. Liquid Temp (T_{LA}) (psia)	Molecular Weight of the Vapor (M_v)
Diesel	100%	130	0.005	130.0	100%	0.005	130
Average M_v	130.00						
Average P_v	0.005						
R	10.731	psia-ft ³ /lbmole-°R					
T_{LA}	54.9 °F =		514.5 °R				
Average W_v	0.0001	lb/ft ³					

Tanks 4.0.9d Diesel Vapor Pressures	
40F	0.0031
50F	0.0045
60F	0.0065
70F	0.009
80F	0.012
90F	0.016
100F	0.022

¹ Molecular weights were taken from AP-42 Table 7.1-2 or Table 7.1-3

² Vapor pressure was interpolated from Tanks 4.0.9d values.

Vapor Space Expansion Factor (K_E)	
$K_E = \Delta T_v / T_{LA} + ((\Delta P_v - \Delta P_B) / (P_A - P_{VA}))$	(AP-42, Chap 7.1, eq. 1-7)

Symbols	Description	Values	Units
ΔT_v	Daily Temperature Range	25.86	°F
T_{AX}	Avg. Daily Maximum Temperature	58.4	°F
T_{AN}	Avg. Daily Minimum Temperature	41.8	°F
α	Paint Solar Absorption Factor	0.42	
I	Daily Total Solar Insulation Factor	1183	Btu/ft ² day
ΔP_v	Daily Vapor Pressure Range	0.002	psia
B Value	B Constant from Vapor Pressure Equation	8907	
T_{LA}	Average Liquid Temperature	514.5	°R
T_{AA}	Daily Average Ambient Temperature	509.77	°R
T_B	Bulk Liquid Temperature	511.3	°R
ΔP_B	Vent Pressure Range (usually 0.06 psia)	0.06	psia
P_A	Atmospheric Pressure (14.7 psia)	14.7	psia
P_{VA}	Vapor Pressure at Average Temperature of Liquid	0.005	psia
		$K_E =$	0.0463

Location Utilized: Chicago, IL

$\Delta T_v = 0.72 \cdot \Delta T_A + 0.028 \cdot \alpha \cdot I$
 From AP-42 Table 7.1-7
 From AP-42 Table 7.1-7
 Assume white paint/good condition (or AP-42 Table 7.1-6)
 From AP-42 Table 7.1-7
 $\Delta P_v = (0.5 \cdot B \cdot P_{VA} \cdot \Delta T_v) / T_{LA}^2$
 From AP-42 Table 7.1-5
 $T_{LA} = 0.44 \cdot T_{AA} + 0.56 \cdot T_B + 0.0079 \cdot \alpha \cdot I$
 $T_{AA} = (T_{AX} + T_{AN}) / 2$
 $T_B = T_{AA} + 6 \cdot \alpha - 1$

Vented Vapor Saturation Factor (K_S)	
$K_S = 1 / (1 + (0.053 \cdot P_{VA} \cdot H_{vo}))$	(AP-42, Chap 7.1, eq. 1-20)

Symbol	Description	Values	Units
P_{VA}	Vapor pressure at average liquid temperature	0.005	psia
	vapor space outage	3.1	ft
		$K_S =$	0.9991

Standing Loss (L_s) =	1.48 lbs/yr
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Tank Working Loss Emissions - Diesel Dispensing DFD5
Lakeshore Terminal Railroad LLC
East Chicago, IN

EIIP Equation for Material Loss (Volume II, Chapter 8, Equation 8.4-1):

$E_{voc} = 12.46 \times \frac{S \times P \times M \times Q}{T}$	
where	
E _{voc}	= total VOC loading emissions (lb/yr)
S	= saturation factor (dimensionless; see Table 5.2-1 in AP-42)
P	= vapor pressure of the material loaded at temperature T (psia)
M	= vapor molecular weight (lb/lb-mole)
Q	= volume of material loaded (1,000 gal/yr)
T	= temperature of liquid loaded (°R).

Parameters:

Parameter		Value	Unit
Max. Yearly Diesel Usage	Q	1,277,500	gal/yr
Temperature	T	529.67	R (Based on 70 degree F)
Saturation Factor (Submerged Loading)	S	0.6	dimensionless
Diesel Molecular Weight	M	130	lbs/lb-mole
Vapor Pressure @ 529.67R	P	0.009	Psia

Emissions:

Emissions		Value	Unit
Annual VOC Working Loss	E _{voc}	21.10	lbs/yr
		0.0105	tons/yr

Boiler B1 - Natural Gas Combustion
Lakeshore Terminal Railroad LLC
East Chicago, IN

Parameters:

Firing Capacity ¹ =	5.02 MMBtu/hr
Maximum Annual Operating Hours ² =	8,760 hrs/yr
Expected Actual Annual Operating Hours ³ =	4,160 hrs/yr
Heating Value for Natural Gas ⁴ =	1,020 Btu/scf

Emission Factors ⁵:

NO _x =	100	lb/mmscf
CO =	84	lb/mmscf
PM/PM ₁₀ /PM _{2.5} =	7.6	lb/mmscf
SO ₂ =	0.6	lb/mmscf
VOC =	5.5	lb/mmscf
HAPs = (see the pages for HAPs - Natural Gas Combustion)		

Calculations:

Emissions (lbs/hr) = Emission Factor (lb/mmscf) × Firing Capacity (MMBtu/hr) / Heating Value (Btu/scf)

Emissions (TPY) = Emissions (lbs/hr) / 2,000 (lbs/ton) × Annual Operating Hours (hrs/yr)

Emissions:

Pollutant	Emission Factor ⁵	Potential Emissions		Actual Emissions	
	(lbs/MMscf)	(lbs/hr)	(TPY)	(lbs/hr)	(TPY)
NO _x	100	0.49	2.16	0.49	1.02
CO	84	0.41	1.81	0.41	0.86
PM	7.6	0.04	0.16	0.04	0.08
SO ₂	0.6	3.0E-03	0.01	3.0E-03	0.01
VOC	5.5	0.03	0.12	0.03	0.06
Max. Single HAP (Hexane)	1.80	0.01	0.04	0.01	0.02
Total HAPs	1.89	0.01	0.04	0.01	0.02

Notes:

1. The firing capacity of the boiler was provided by the facility.
2. The maximum annual operating hours are assumed to be 8,760 operating hr/yr.
3. The expected actual annual operating hours are assumed to be 4,160 operating hr/yr based on 16 operating hours per day, 5 operating days per week, and 52 operating weeks per year.
4. The heating value for natural gas is based on literature.
5. Emission factors are from AP-42, Section 1.4, Tables 1.4-1 and 1.4-2 (Fifth Edition, Volume I, supplement D, July 1998).

Boiler B2 - Natural Gas Combustion
Lakeshore Terminal Railroad LLC
East Chicago, IN

Parameters:

Firing Capacity ¹ =	25.106 MMBtu/hr
Maximum Annual Operating Hours ² =	8,760 hrs/yr
Expected Actual Annual Operating Hours ³ =	4,160 hrs/yr
Heating Value for Natural Gas ⁴ =	1,020 Btu/scf

Emission Factors ⁵:

NO _x =	100	lb/mmscf
CO =	84	lb/mmscf
PM/PM ₁₀ /PM _{2.5} =	7.6	lb/mmscf
SO ₂ =	0.6	lb/mmscf
VOC =	5.5	lb/mmscf
HAPs = (see the pages for HAPs - Natural Gas Combustion)		

Calculations:

Emissions (lbs/hr) = Emission Factor (lb/mmscf) × Firing Capacity (MMBtu/hr) / Heating Value (Btu/scf)

Emissions (TPY) = Emissions (lbs/hr) / 2,000 (lbs/ton) x Annual Operating Hours (hrs/yr)

Emissions:

Pollutant	Emission Factor ⁵	Potential Emissions		Actual Emissions	
	(lbs/MMscf)	(lbs/hr)	(TPY)	(lbs/hr)	(TPY)
NO _x	100	2.46	10.78	2.46	5.12
CO	84	2.07	9.06	2.07	4.30
PM	7.6	0.19	0.82	0.19	0.39
SO ₂	0.6	0.01	0.06	0.01	0.03
VOC	5.5	0.14	0.59	0.14	0.28
Max. Single HAP (Hexane)	1.80	0.04	0.19	0.04	0.09
Total HAPs	1.89	0.05	0.20	0.05	0.10

Notes:

1. The firing capacity of the boiler was provided by the facility.
2. The maximum annual operating hours are assumed to be 8,760 operating hr/yr.
3. The expected actual annual operating hours are assumed to be 4,160 operating hr/yr based on 16 operating hours per day, 5 operating days per week, and 52 operating weeks per year.
4. The heating value for natural gas is based on literature.
5. Emission factors are from AP-42, Section 1.4, Tables 1.4-1 and 1.4-2 (Fifth Edition, Volume I, supplement D, July 1998).

Two HVAC Units - Natural Gas Combustion
Lakeshore Terminal Railroad LLC
East Chicago, IN

Parameters:

Firing Capacity ¹ =	0.050 MMBtu/hr
Number of Identical Units ¹ =	2 units
Maximum Annual Operating Hours ² =	8,760 hrs/yr
Expected Actual Annual Operating Hours ³ =	4,160 hrs/yr
Heating Value for Natural Gas ⁴ =	1,020 Btu/scf

Emission Factors ⁵:

NOx =	100	lb/mmscf
CO =	84	lb/mmscf
PM/PM ₁₀ /PM _{2.5} =	7.6	lb/mmscf
SO ₂ =	0.6	lb/mmscf
VOC =	5.5	lb/mmscf
HAPs =	<i>(see the pages for HAPs - Natural Gas Combustion)</i>	

Calculations:

Emissions (lbs/hr) = Emission Factor (lb/mmscf) × Firing Capacity (MMBtu/hr) / Heating Value (Btu/scf)

Emissions (TPY) = Emissions (lbs/hr) / 2,000 (lbs/ton) × Annual Operating Hours (hrs/yr)

Emissions:

Pollutant	Emission Factor ⁵	Potential Emissions		Actual Emissions	
	(lbs/MMscf)	(lbs/hr)	(TPY)	(lbs/hr)	(TPY)
NOx	100	0.01	0.04	0.01	0.02
CO	84	0.01	0.04	0.01	0.02
PM	7.6	7.5E-04	0.00	7.5E-04	1.5E-03
SO ₂	0.6	5.9E-05	2.6E-04	5.9E-05	1.2E-04
VOC	5.5	5.4E-04	0.00	5.4E-04	1.1E-03
Max. Single HAP (Hexane)	1.80	1.8E-04	7.7E-04	1.8E-04	3.7E-04
Total HAPs	1.89	1.9E-04	8.1E-04	1.9E-04	3.8E-04

Notes:

1. This information was provided by the facility.
2. The maximum annual operating hours are assumed to be 8,760 operating hr/yr.
3. The expected actual annual operating hours are conservatively assumed to be 4,160 operating hr/yr based on 16 operating hours per day, 5 operating days per week, and 52 operating weeks per year.
4. The heating value for natural gas is based on literature.
5. Emission factors are from AP-42, Section 1.4, Tables 1.4-1 and 1.4-2 (Fifth Edition, Volume I, supplement D, July 1998).

Five Heaters - Natural Gas Combustion
Lakeshore Terminal Railroad LLC
East Chicago, IN

Parameters:

Firing Capacity ¹ =	0.250 MMBtu/hr
Number of Identical Units ¹ =	5 units
Maximum Annual Operating Hours ² =	8,760 hrs/yr
Expected Actual Annual Operating Hours ³ =	4,160 hrs/yr
Heating Value for Natural Gas ⁴ =	1,020 Btu/scf

Emission Factors ⁵:

NO _x =	100	lb/mmscf
CO =	84	lb/mmscf
PM/PM ₁₀ /PM _{2.5} =	7.6	lb/mmscf
SO ₂ =	0.6	lb/mmscf
VOC =	5.5	lb/mmscf
HAPs =	<i>(see the pages for HAPs - Natural Gas Combustion)</i>	

Calculations:

Emissions (lbs/hr) = Emission Factor (lb/mmscf) × Firing Capacity (MMBtu/hr) / Heating Value (Btu/scf)

Emissions (TPY) = Emissions (lbs/hr) / 2,000 (lbs/ton) × Annual Operating Hours (hrs/yr)

Emissions:

Pollutant	Emission Factor ⁵	Potential Emissions		Actual Emissions	
	(lbs/MMscf)	(lbs/hr)	(TPY)	(lbs/hr)	(TPY)
NO _x	100	0.12	0.54	0.12	0.25
CO	84	0.10	0.45	0.10	0.21
PM	7.6	0.01	0.04	0.01	0.02
SO ₂	0.6	7.4E-04	3.2E-03	7.4E-04	1.5E-03
VOC	5.5	0.01	0.03	0.01	0.01
Max. Single HAP (Hexane)	1.80	2.2E-03	0.01	2.2E-03	4.6E-03
Total HAPs	1.89	2.3E-03	0.01	2.3E-03	4.8E-03

Notes:

1. This information was provided by the facility.
2. The maximum annual operating hours are assumed to be 8,760 operating hr/yr.
3. The expected actual annual operating hours are conservatively assumed to be 4,160 operating hr/yr based on 16 operating hours per day, 5 operating days per week, and 52 operating weeks per year.
4. The heating value for natural gas is based on literature.
5. Emission factors are from AP-42, Section 1.4, Tables 1.4-1 and 1.4-2 (Fifth Edition, Volume I, supplement D, July 1998).

HAPs - Natural Gas Combustion (Potential Emissions)

Lakeshore Terminal Railroad LLC

East Chicago, IN

Parameters:

Boiler B1	Firing Capacity ¹ =	5.02 MMBtu/hr
Boiler B2	Firing Capacity ¹ =	25.106 MMBtu/hr
HVAC Units	Firing Capacity ¹ =	0.050 MMBtu/hr each for 2 units
Heaters	Firing Capacity ¹ =	0.250 MMBtu/hr each for 2 units
	Maximum Annual Operating Hours ² =	8,760 hrs/yr
	Heating Value for Natural Gas ³ =	1,020 Btu/scf

Calculations:

Emissions (lbs/hr) = Emission Factor (lb/mmscf) × Firing Capacity (MMBtu/hr) / Heating Value (Btu/scf)

Emissions (TPY) = Emissions (lbs/hr) / 2,000 (lbs/ton) × Maximum Annual Operating Hours (hrs/yr)

Potential Emissions:

HAPs	Emission Factor ⁴	Boiler B1		Boiler B2		HVAC Units		Heaters	
	(lbs/MMscf)	(lbs/hr)	(TPY)	(lbs/hr)	(TPY)	(lbs/hr)	(TPY)	(lbs/hr)	(TPY)
Benzene	0.0021	1.0E-05	4.5E-05	5.2E-05	2.3E-04	2.1E-07	9.0E-07	2.6E-06	1.1E-05
Formaldehyde	0.075	3.7E-04	1.6E-03	1.8E-03	8.1E-03	7.4E-06	3.2E-05	9.2E-05	4.0E-04
Hexane	1.80	8.9E-03	3.9E-02	4.4E-02	1.9E-01	1.8E-04	7.7E-04	2.2E-03	9.7E-03
Toluene	0.0034	1.7E-05	7.3E-05	8.4E-05	3.7E-04	3.3E-07	1.5E-06	4.2E-06	1.8E-05
Nickel	0.0021	1.0E-05	4.5E-05	5.2E-05	2.3E-04	2.1E-07	9.0E-07	2.6E-06	1.1E-05
Chromium	0.0014	6.9E-06	3.0E-05	3.4E-05	1.5E-04	1.4E-07	6.0E-07	1.7E-06	7.5E-06
Dichlorobenzene	0.0012	5.9E-06	2.6E-05	3.0E-05	1.3E-04	1.2E-07	5.2E-07	1.5E-06	6.4E-06
Cadmium	0.0011	5.4E-06	2.4E-05	2.7E-05	1.2E-04	1.1E-07	4.7E-07	1.3E-06	5.9E-06
Manganese	0.00038	1.9E-06	8.2E-06	9.4E-06	4.1E-05	3.7E-08	1.6E-07	4.7E-07	2.0E-06
Mercury	0.00026	1.3E-06	5.6E-06	6.4E-06	2.8E-05	2.5E-08	1.1E-07	3.2E-07	1.4E-06
Arsenic	0.0002	9.8E-07	4.3E-06	4.9E-06	2.2E-05	2.0E-08	8.6E-08	2.5E-07	1.1E-06
Cobalt	0.000084	4.1E-07	1.8E-06	2.1E-06	9.1E-06	8.2E-09	3.6E-08	1.0E-07	4.5E-07
Beryllium	0.000012	5.9E-08	2.6E-07	3.0E-07	1.3E-06	1.2E-09	5.2E-09	1.5E-08	6.4E-08
Selenium	0.000024	1.2E-07	5.2E-07	5.9E-07	2.6E-06	2.4E-09	1.0E-08	2.9E-08	1.3E-07
Total POM/PAH	0.0006982	3.4E-06	1.5E-05	1.7E-05	7.5E-05	6.8E-08	3.0E-07	8.6E-07	3.7E-06
2 - Methylnaphthalene	0.000024	1.2E-07	5.2E-07	5.9E-07	2.6E-06	2.4E-09	1.0E-08	2.9E-08	1.3E-07
3 - Methylcholanthrene	0.0000018	8.9E-09	3.9E-08	4.4E-08	1.9E-07	1.8E-10	7.7E-10	2.2E-09	9.7E-09
7,12-Dimethylbenz(a)anthracene	0.000016	7.9E-08	3.4E-07	3.9E-07	1.7E-06	1.6E-09	6.9E-09	2.0E-08	8.6E-08
Naphthalene	0.00061	3.0E-06	1.3E-05	1.5E-05	6.6E-05	6.0E-08	2.6E-07	7.5E-07	3.3E-06
Acenaphthene	0.0000018	8.9E-09	3.9E-08	4.4E-08	1.9E-07	1.8E-10	7.7E-10	2.2E-09	9.7E-09
Acenaphthylene	0.0000018	8.9E-09	3.9E-08	4.4E-08	1.9E-07	1.8E-10	7.7E-10	2.2E-09	9.7E-09
Anthracene	0.0000024	1.2E-08	5.2E-08	5.9E-08	2.6E-07	2.4E-10	1.0E-09	2.9E-09	1.3E-08
Fluorene	0.0000028	1.4E-08	6.0E-08	6.9E-08	3.0E-07	2.7E-10	1.2E-09	3.4E-09	1.5E-08
Phenanthrene	0.000017	8.4E-08	3.7E-07	4.2E-07	1.8E-06	1.7E-09	7.3E-09	2.1E-08	9.1E-08
Fluoranthene	0.000003	1.5E-08	6.5E-08	7.4E-08	3.2E-07	2.9E-10	1.3E-09	3.7E-09	1.6E-08
Pyrene	0.000005	2.5E-08	1.1E-07	1.2E-07	5.4E-07	4.9E-10	2.1E-09	6.1E-09	2.7E-08
Benz(a)anthracene	0.0000018	8.9E-09	3.9E-08	4.4E-08	1.9E-07	1.8E-10	7.7E-10	2.2E-09	9.7E-09
Benzo(a)pyrene	0.0000012	5.9E-09	2.6E-08	3.0E-08	1.3E-07	1.2E-10	5.2E-10	1.5E-09	6.4E-09
Benzo(b)fluoranthene	0.0000018	8.9E-09	3.9E-08	4.4E-08	1.9E-07	1.8E-10	7.7E-10	2.2E-09	9.7E-09
Benzo(g,h,i)perylene	0.0000012	5.9E-09	2.6E-08	3.0E-08	1.3E-07	1.2E-10	5.2E-10	1.5E-09	6.4E-09
Benzo(k)fluoranthene	0.0000018	8.9E-09	3.9E-08	4.4E-08	1.9E-07	1.8E-10	7.7E-10	2.2E-09	9.7E-09
Indeno(1,2,3-cd)pyrene	0.0000018	8.9E-09	3.9E-08	4.4E-08	1.9E-07	1.8E-10	7.7E-10	2.2E-09	9.7E-09
Dibenzo(a,h)anthracene	0.0000012	5.9E-09	2.6E-08	3.0E-08	1.3E-07	1.2E-10	5.2E-10	1.5E-09	6.4E-09
Chrysene	0.0000018	8.9E-09	3.9E-08	4.4E-08	1.9E-07	1.8E-10	7.7E-10	2.2E-09	9.7E-09
Max. Single HAP (Hexane)	1.80	0.01	0.04	0.04	0.19	1.76E-04	7.73E-04	2.21E-03	9.66E-03
Total HAPs	1.89	0.01	0.04	0.05	0.20	1.85E-04	8.11E-04	2.31E-03	1.01E-02

Notes:

1. The firing capacities were provided by the facility.
2. The maximum annual operating hours are assumed to be 8,760 operating hr/yr.
3. The heating value for natural gas is based on literature.
4. Emission factors are from AP-42, Section 1.4, Tables 1.4-1 and 1.4-2 (Fifth Edition, Volume I, supplement D, July 1998).

HAPs - Natural Gas Combustion (Actual Emissions)

Lakeshore Terminal Railroad LLC

East Chicago, IN

Parameters:

Boiler B1	Firing Capacity ¹ =	5.02 MMBtu/hr
Boiler B2	Firing Capacity ¹ =	25.106 MMBtu/hr
HVAC Units	Firing Capacity ¹ =	0.050 MMBtu/hr each for 2 units
Heaters	Firing Capacity ¹ =	0.250 MMBtu/hr each for 2 units
Expected Actual Annual Operating Hours ² =		4,160 hrs/yr
Heating Value for Natural Gas ³ =		1,020 Btu/scf

Calculations:

Emissions (lbs/hr) = Emission Factor (lb/mmscf) × Firing Capacity (MMBtu/hr) / Heating Value (Btu/scf)

Emissions (TPY) = Emissions (lbs/hr) / 2,000 (lbs/ton) × Expected Annual Operating Hours (hrs/yr)

Potential Emissions:

HAPs	Emission Factor ⁴	Boiler B1		Boiler B2		HVAC Units		Heaters	
	(lbs/MMscf)	(lbs/hr)	(TPY)	(lbs/hr)	(TPY)	(lbs/hr)	(TPY)	(lbs/hr)	(TPY)
Benzene	0.0021	1.0E-05	2.1E-05	5.2E-05	1.1E-04	2.1E-07	4.3E-07	2.6E-06	5.4E-06
Formaldehyde	0.075	3.7E-04	7.7E-04	1.8E-03	3.8E-03	7.4E-06	1.5E-05	9.2E-05	1.9E-04
Hexane	1.80	8.9E-03	1.8E-02	4.4E-02	9.2E-02	1.8E-04	3.7E-04	2.2E-03	4.6E-03
Toluene	0.0034	1.7E-05	3.5E-05	8.4E-05	1.7E-04	3.3E-07	6.9E-07	4.2E-06	8.7E-06
Nickel	0.0021	1.0E-05	2.1E-05	5.2E-05	1.1E-04	2.1E-07	4.3E-07	2.6E-06	5.4E-06
Chromium	0.0014	6.9E-06	1.4E-05	3.4E-05	7.2E-05	1.4E-07	2.9E-07	1.7E-06	3.6E-06
Dichlorobenzene	0.0012	5.9E-06	1.2E-05	3.0E-05	6.1E-05	1.2E-07	2.4E-07	1.5E-06	3.1E-06
Cadmium	0.0011	5.4E-06	1.1E-05	2.7E-05	5.6E-05	1.1E-07	2.2E-07	1.3E-06	2.8E-06
Manganese	0.00038	1.9E-06	3.9E-06	9.4E-06	1.9E-05	3.7E-08	7.7E-08	4.7E-07	9.7E-07
Mercury	0.00026	1.3E-06	2.7E-06	6.4E-06	1.3E-05	2.5E-08	5.3E-08	3.2E-07	6.6E-07
Arsenic	0.0002	9.8E-07	2.0E-06	4.9E-06	1.0E-05	2.0E-08	4.1E-08	2.5E-07	5.1E-07
Cobalt	0.000084	4.1E-07	8.6E-07	2.1E-06	4.3E-06	8.2E-09	1.7E-08	1.0E-07	2.1E-07
Beryllium	0.000012	5.9E-08	1.2E-07	3.0E-07	6.1E-07	1.2E-09	2.4E-09	1.5E-08	3.1E-08
Selenium	0.000024	1.2E-07	2.5E-07	5.9E-07	1.2E-06	2.4E-09	4.9E-09	2.9E-08	6.1E-08
Total POM/PAH	0.0006982	3.4E-06	7.1E-06	1.7E-05	3.6E-05	6.8E-08	1.4E-07	8.6E-07	1.8E-06
2 - Methylnaphthalene	0.000024	1.2E-07	2.5E-07	5.9E-07	1.2E-06	2.4E-09	4.9E-09	2.9E-08	6.1E-08
3 - Methylcholanthrene	0.0000018	8.9E-09	1.8E-08	4.4E-08	9.2E-08	1.8E-10	3.7E-10	2.2E-09	4.6E-09
7,12-Dimethylbenz(a)anthracene	0.000016	7.9E-08	1.6E-07	3.9E-07	8.2E-07	1.6E-09	3.3E-09	2.0E-08	4.1E-08
Naphthalene	0.00061	3.0E-06	6.2E-06	1.5E-05	3.1E-05	6.0E-08	1.2E-07	7.5E-07	1.6E-06
Acenaphthene	0.0000018	8.9E-09	1.8E-08	4.4E-08	9.2E-08	1.8E-10	3.7E-10	2.2E-09	4.6E-09
Acenaphthylene	0.0000018	8.9E-09	1.8E-08	4.4E-08	9.2E-08	1.8E-10	3.7E-10	2.2E-09	4.6E-09
Anthracene	0.0000024	1.2E-08	2.5E-08	5.9E-08	1.2E-07	2.4E-10	4.9E-10	2.9E-09	6.1E-09
Fluorene	0.0000028	1.4E-08	2.9E-08	6.9E-08	1.4E-07	2.7E-10	5.7E-10	3.4E-09	7.1E-09
Phenanthrene	0.000017	8.4E-08	1.7E-07	4.2E-07	8.7E-07	1.7E-09	3.5E-09	2.1E-08	4.3E-08
Fluoranthene	0.000003	1.5E-08	3.1E-08	7.4E-08	1.5E-07	2.9E-10	6.1E-10	3.7E-09	7.6E-09
Pyrene	0.000005	2.5E-08	5.1E-08	1.2E-07	2.6E-07	4.9E-10	1.0E-09	6.1E-09	1.3E-08
Benz(a)anthracene	0.0000018	8.9E-09	1.8E-08	4.4E-08	9.2E-08	1.8E-10	3.7E-10	2.2E-09	4.6E-09
Benzo(a)pyrene	0.0000012	5.9E-09	1.2E-08	3.0E-08	6.1E-08	1.2E-10	2.4E-10	1.5E-09	3.1E-09
Benzo(b)fluoranthene	0.0000018	8.9E-09	1.8E-08	4.4E-08	9.2E-08	1.8E-10	3.7E-10	2.2E-09	4.6E-09
Benzo(g,h,i)perylene	0.0000012	5.9E-09	1.2E-08	3.0E-08	6.1E-08	1.2E-10	2.4E-10	1.5E-09	3.1E-09
Benzo(k)fluoranthene	0.0000018	8.9E-09	1.8E-08	4.4E-08	9.2E-08	1.8E-10	3.7E-10	2.2E-09	4.6E-09
Indeno(1,2,3-cd)pyrene	0.0000018	8.9E-09	1.8E-08	4.4E-08	9.2E-08	1.8E-10	3.7E-10	2.2E-09	4.6E-09
Dibenzo(a,h)anthracene	0.0000012	5.9E-09	1.2E-08	3.0E-08	6.1E-08	1.2E-10	2.4E-10	1.5E-09	3.1E-09
Chrysene	0.0000018	8.9E-09	1.8E-08	4.4E-08	9.2E-08	1.8E-10	3.7E-10	2.2E-09	4.6E-09
Max. Single HAP (Hexane)	1.80	0.01	0.02	0.04	0.09	1.76E-04	3.67E-04	2.21E-03	4.59E-03
Total HAPs	1.89	0.01	0.02	0.05	0.10	1.85E-04	3.85E-04	2.31E-03	4.81E-03

Notes:

1. The firing capacities were provided by the facility.
2. The expected actual annual operating hours are assumed to be 4,160 operating hr/yr based on 16 operating hours per day, 5 operating days per week, and 52 operating weeks per year.
3. The heating value for natural gas is based on literature.
4. Emission factors are from AP-42, Section 1.4, Tables 1.4-1 and 1.4-2 (Fifth Edition, Volume I, supplement D, July 1998).

Paved Roads - PM Emissions
Lakeshore Terminal Railroad LLC
East Chicago, IN

Paved Roads at Industrial Site:

The following calculations determine the amount of emissions created by paved roads, based on AP-42, Ch 13.2.1 (1/2011).

Vehicle Information (provided by the Facility):

Type	Maximum number of vehicles per day	Number of one-way trips per day per vehicle	Maximum trips per day (trip/day)	Maximum Weight Loaded (tons/trip)	Total Weight driven per day (ton/day)	Maximum one-way distance (feet/trip)	Maximum one-way distance (miles/trip)	Maximum one-way miles (miles/day)	Maximum one-way miles (miles/yr)
Truck Tankers (enter empty)	5.0	1.0	5.0	17	85	1300	0.246	1.2	449.3
Truck Tankers (leave full)	5.0	1.0	5.0	40	200	1300	0.246	1.2	449.3
Truck Tankers (enter full)	5.0	1.0	5.0	40	200	1300	0.246	1.2	449.3
Truck Tankers (leave empty)	5.0	1.0	5.0	17	85	1300	0.246	1.2	449.3
Light Duty Vehicles (enter with driver)	5.0	1.0	5.0	2.4	12	650	0.123	0.6	224.7
Light Duty Vehicles (leave with driver)	5.0	1.0	5.0	2.4	12	650	0.123	0.6	224.7
Totals			30.0		594			6.2	2,247

Average Vehicle Weight Per Trip = tons/trip
Average Miles Per Trip = miles/trip

Unmitigated Emission Factor, $E_f = [k * (sL)^{0.91} * (W)^{1.02}]$ (Equation 1 from AP-42 13.2.1)

	PM	PM10	PM2.5	
where k =	0.011	0.0022	0.00054	lb/VMT = particle size multiplier (AP-42 Table 13.2.1-1)
W =	19.8	19.8	19.8	tons = average vehicle weight (provided by source)
sL =	9.7	9.7	9.7	g/m ² = silt loading value for paved roads for Steel and Iron Production - Table 13.2.1-3)

Taking natural mitigation due to precipitation into consideration, Mitigated Emission Factor, $E_{ext} = E * [1 - (p/4N)]$ (Equation 2 from AP-42 13.2.1)

Mitigated Emission Factor, $E_{ext} = E_f * [1 - (p/4N)]$
where p = days of rain greater than or equal to 0.01 inches (see Fig. 13.2.1-2)
N = days per year

	PM	PM10	PM2.5	
Unmitigated Emission Factor, $E_f =$	1.828	0.366	0.0897	lb/mile
Mitigated Emission Factor, $E_{ext} =$	1.671	0.334	0.0821	lb/mile
Dust Control Efficiency =	0.0%	0.0%	0.0%	

Process	Unmitigated PM Emissions (tons/yr)	Unmitigated PM10 Emissions (tons/yr)	Unmitigated PM2.5 Emissions (tons/yr)	Mitigated PM Emissions (tons/yr)	Mitigated PM10 Emissions (tons/yr)	Mitigated PM2.5 Emissions (tons/yr)	Actual PM Emissions (tons/yr)	Actual PM10 Emissions (tons/yr)	Actual PM2.5 Emissions (tons/yr)
Truck Tankers (enter empty)	0.41	0.08	0.02	0.38	0.08	0.02	0.38	0.08	0.02
Truck Tankers (leave full)	0.41	0.08	0.02	0.38	0.08	0.02	0.38	0.08	0.02
Truck Tankers (enter full)	0.41	0.08	0.02	0.38	0.08	0.02	0.38	0.08	0.02
Truck Tankers (leave empty)	0.41	0.08	0.02	0.38	0.08	0.02	0.38	0.08	0.02
Light Duty Vehicles (enter with driver)	0.21	0.04	0.01	0.19	0.04	0.01	0.19	0.04	0.01
Light Duty Vehicles (leave with driver)	0.21	0.04	0.01	0.19	0.04	0.01	0.19	0.04	0.01
Total (tons/yr)	2.05	0.41	0.10	1.88	0.38	0.09	1.88	0.38	0.09
Total (lbs/hr)	0.47	0.09	0.02	0.43	0.09	0.02	0.43	0.09	0.02

Methodology:

Total Weight driven per day (ton/day) = [Maximum Weight Loaded (tons/trip)] * [Maximum trips per day (trip/day)]
Maximum one-way distance (mi/trip) = [Maximum one-way distance (feet/trip)] / [5280 ft/mile]
Maximum one-way miles (miles/day) = [Maximum trips per year (trip/day)] * [Maximum one-way distance (mi/trip)]
Average Vehicle Weight Per Trip (ton/trip) = SUM[Total Weight driven per day (ton/day)] / SUM[Maximum trips per day (trip/day)]
Average Miles Per Trip (miles/trip) = SUM[Maximum one-way miles (miles/day)] / SUM[Maximum trips per year (trip/day)]
Unmitigated PTE (tons/yr) = [Maximum one-way miles (miles/yr)] * [Unmitigated Emission Factor (lb/mile)] * (ton/2000 lbs)
Mitigated PTE (tons/yr) = [Maximum one-way miles (miles/yr)] * [Mitigated Emission Factor (lb/mile)] * (ton/2000 lbs)
Controlled PTE (tons/yr) = [Mitigated PTE (tons/yr)] * [1 - Dust Control Efficiency]

From: [Uhlir, Grayson](#)
To: [SURA, MEHUL](#)
Subject: RE: IDEM OAQ Contact Information for Application No. 089-47845-00732 for Lakeshore Terminal Railroad LLC
Date: Thursday, June 6, 2024 3:01:07 PM
Attachments: [image001.png](#)
[image002.png](#)
[image003.png](#)
[image004.png](#)
[image005.png](#)
[image006.png](#)
[image007.png](#)
[image008.png](#)
[image009.png](#)
[image010.png](#)
[image657453.png](#)
[image614158.png](#)
[image498002.png](#)

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Hi Mehul,

Thank you for confirming. The HVAC units and heaters are direct-fired and they are used for climate control (heating and cooling) in the buildings (i.e. administrative offices, maintenance building, etc.).

Best,
Grayson

Grayson Uhlir
Project Engineer

 **Weaver Consultants Group**

35 E. Wacker Drive | Suite 1250

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O: 312-922-1030 | F: 312-922-0201 | M: 708-870-0622

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From: SURA, MEHUL <MSURA@idem.IN.gov>

Sent: Wednesday, June 5, 2024 9:06 AM

To: Uhlir, Grayson <guhkir@wcgrp.com>

Subject: RE: IDEM OAQ Contact Information for Application No. 089-47845-00732 for Lakeshore Terminal Railroad LLC

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I have received the updated emission calculations. Just wanted to know if two (2) natural gas-fired HVAC units and five (5) natural gas-fired heaters are indirect or direct heating units and what are the purpose of these units? I have all other information. Thanks

From: Uhler, Grayson <guhler@wcgrp.com>

Sent: Tuesday, June 4, 2024 3:33 PM

To: SURA, MEHUL <MSURA@idem.IN.gov>

Subject: RE: IDEM OAQ Contact Information for Application No. 089-47845-00732 for Lakeshore Terminal Railroad LLC

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Hi Mehul,

I wanted to follow up to confirm that you received the updated emission calculations. Please let me know if you have any questions or would like to schedule time to discuss them.

Best,
Grayson

Grayson Uhler
Project Engineer

 **Weaver Consultants Group**

35 E. Wacker Drive | Suite 1250

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From: Uhler, Grayson

Sent: Thursday, May 30, 2024 4:27 PM

To: SURA, MEHUL <MSURA@idem.IN.gov>

Subject: RE: IDEM OAQ Contact Information for Application No. 089-47845-00732 for Lakeshore Terminal Railroad LLC

Hi Mehul,

I hope you're having a good week!

Please find attached the updated emission calculations for Lakeshore Terminal Railroad. Let me know if you would like to schedule a call tomorrow to discuss – I am generally available before 9:00am, between 10:00am – 12:30pm, and after 1:45pm (CT). Also, do not hesitate to reach out should you have any questions.

Best,
Grayson

From: Uhlir, Grayson

Sent: Tuesday, May 21, 2024 10:13 AM

To: SURA, MEHUL <MSURA@idem.IN.gov>

Subject: RE: IDEM OAQ Contact Information for Application No. 089-47845-00732 for Lakeshore Terminal Railroad LLC

Hi Mehul,

I received your voicemail and tried returning your call. Please let me know what time you are available today, and I will call back again.

Thank you,
Grayson

From: Uhlir, Grayson

Sent: Friday, May 17, 2024 10:30 AM

To: SURA, MEHUL <MSURA@idem.IN.gov>

Subject: RE: IDEM OAQ Contact Information for Application No. 089-47845-00732 for Lakeshore Terminal Railroad LLC

Mehul,

Please find attached the completed GSD-14 form. Let me know if you need anything else at this time.

Sincerely,
Grayson

From: SURA, MEHUL <MSURA@idem.IN.gov>
Sent: Friday, May 17, 2024 9:24 AM
To: Uhler, Grayson <guhler@wcgrp.com>
Subject: RE: IDEM OAQ Contact Information for Application No. 089-47845-00732 for Lakeshore Terminal Railroad LLC

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Thank you

From: Uhler, Grayson <guhler@wcgrp.com>
Sent: Friday, May 17, 2024 10:21 AM
To: SURA, MEHUL <MSURA@idem.IN.gov>
Subject: RE: IDEM OAQ Contact Information for Application No. 089-47845-00732 for Lakeshore Terminal Railroad LLC

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Good morning,

I was able to notify North Township, and I updated the GSD-15 form accordingly (see attached). I will provide the GSD-14 form soon once I am able to reach the adjacent owners/occupants.

Thank you,
Grayson

Grayson Uhler
Project Engineer

 **Weaver Consultants Group**

35 E. Wacker Drive | Suite 1250

Chicago, IL 60601

O: [312-922-1030](tel:312-922-1030) | F: [312-922-0201](tel:312-922-0201) | M: [708-870-0622](tel:708-870-0622)

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From: Uhlir, Grayson

Sent: Thursday, May 16, 2024 2:48 PM

To: SURA, MEHUL <MSURA@idem.IN.gov>

Subject: RE: IDEM OAQ Contact Information for Application No. 089-47845-00732 for Lakeshore Terminal Railroad LLC

Hi Mehul,

Thank you very much!

Please find attached an electronic copy of the emission calculations in excel format. Also, find attached the completed GSD-15 form. Note, I tried contacting Lake County as well as North Township, but the representatives I spoke to were rather confused about my notification and did not know how to direct it. However, I was able to successfully notify the Mayor of East Chicago's office – let me know if this is sufficient. We are still working to notify the adjacent owners/occupants and will provide the completed GSD-14 form soon.

Sincerely,
Grayson

From: SURA, MEHUL <MSURA@idem.IN.gov>

Sent: Thursday, May 16, 2024 9:17 AM

To: Uhlir, Grayson <guhkir@wcgrp.com>

Subject: IDEM OAQ Contact Information for Application No. 089-47845-00732 for Lakeshore Terminal Railroad LLC

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Good morning,

I am the permit writer assigned to the current application No. 089-47845-00732 for Lakeshore Terminal Railroad LLC. I would like to extend to you my contact information so that we may have continued communication until your new permit is issued. Please keep this information at hand. It is common for questions to arise, and oftentimes, further clarification is needed during the permit review process.

To expedite the review process, please e-mail me the electronic copy of your calculations (preferably in excel format) used as part of your application.

Based on my preliminary review of the application, please provide the following completed forms:

- (1) GSD 14 - Owners and Occupants Notified form.

Please note that within ten (10) working days after submitting an application for a permit, the person that submitted the application for the permit shall make a reasonable effort to provide

notice:

- (1) to all owners of land that adjoins the land that is the subject of the permit application; or
- (2) if the owner of land that adjoins the land that is the subject of the permit application does not occupy the land, to all occupants of the land.

(2) GSD-15 – Government Officials Notified

IDEM, OAQ will notify you when a draft permit has been submitted for public notice and/or when a final permit has been issued. As part of the notification, IDEM, OAQ will provide information on how to access the draft and/or final permit electronically on IDEM's website. If Lakeshore Terminal Railroad LLC would prefer to receive paper copies of the entire draft and/or final permit, please let me know prior to the end of the applicant review period. If you prefer to receive paper copies of the entire permit, IDEM, OAQ will mail a paper copy of the draft permit and/or original signed final permit to the source contact. If you do not request to receive paper copies of the entire permit, IDEM, OAQ will only mail a paper copy of the original signed final permit signature page to the source contact.

Please feel free to contact me at any time if you have questions, concerns, or important information regarding your permit. For your convenience, my section chief Madhurima Moulik may be contacted at 317-233-6663 or mmoulik@idem.in.gov.

Thank you in advance for your time and assistance. I look forward to working with you.



Mehul Sura
Environmental Engineer
IDEM, Air Permit Branch

(317) 233-6868 • MSURA@idem.in.gov

[YouTube](#) | [LinkedIn](#) | [Facebook](#) | [Instagram](#) | [Twitter](#) | www.idem.IN.gov

Scan the QR code to leave your feedback.

We appreciate your input!



From: [Uhlir, Grayson](#)
To: [SURA, MEHUL](#)
Subject: RE: IDEM NOD No. 1 for Permit Application No. R089-47845-00732 for Lakeshore Terminal Railroad LLC
Date: Thursday, June 6, 2024 3:17:11 PM
Attachments: [image001.png](#)
[image002.png](#)
[image003.png](#)
[image004.png](#)
[image005.png](#)
[image006.png](#)
[image007.png](#)
[image704311.png](#)
[image869275.png](#)
[image087443.png](#)
[Lakeshore Railcar & Tanker Services LLC - Revocation Application 2024.06.06.pdf](#)

**** This is an EXTERNAL email. Exercise caution. DO NOT open attachments or click links from unknown senders or unexpected email. ****

Good afternoon, Mehul:

Understood. Please find attached the Revocation application that was submitted to IDEM and which will be filed at the local library (East Chicago Public Library) tomorrow.

Please let me know if you have any questions or if additional information is needed.

Sincerely,
Grayson

Grayson Uhlir
Project Engineer

 **Weaver Consultants Group**

35 E. Wacker Drive | Suite 1250

Chicago, IL 60601

O: 312-922-1030 | F: 312-922-0201 | M: 708-870-0622

guhli@wcgrp.com | www.wcgrp.com 



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From: SURA, MEHUL <MSURA@idem.IN.gov>
Sent: Thursday, June 6, 2024 8:17 AM
To: Uhlir, Grayson <guhli@wcgrp.com>
Subject: IDEM NOD No. 1 for Permit Application No. R089-47845-00732 for Lakeshore Terminal

Railroad LLC

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Dear Grayson:

IDEM, OAQ has reviewed the permit application (No. R089-47845-00732) for Lakeshore Terminal Railroad LLC and determined that additional information is needed for IDEM to complete its review of the permit application. Therefore, this e-mail serves as a notice of deficiency (NOD) for this permit application. In order for IDEM, OAQ to complete its work on this permitting action, the following information is necessary:

As we discussed on phone yesterday, please submit a permit Revocation application for Lakeshore Railcar & Tanker Services LLC (LSRS) (FESOP No. F089-37256-00469). Until this FESOP permit is revoked, Registration No. R089-47845-00732 for Lakeshore Terminal Railroad LLC cannot be issued.

Your written or emailed response (e-mail is preferred) to this NOD must be received by IDEM within sixty (60) days of the date the NOD is sent. The deadline for providing this information is August 5, 2024.

Pursuant to IC 13-15-4-10, the accountability time period has been suspended until the additional information has been received and determined to be adequate. IDEM's Nonrule Policy Document for Air Permit Applications: Notices of Deficiency and Placing Applications on Hold (Air 033 NPD) is available at: https://www.in.gov/idem/files/nrpd_air-033.pdf.

Please specify permit application number R089-47845-00732 in all correspondence.

Please send a reply e-mail to me confirming that you have received this request for additional information. If you have questions, concerns, or comments regarding this request for additional information, please contact me at your earliest convenience. Thank you in advance for your assistance in providing the information needed to complete your permitting action.



Mehul Sura
Environmental Engineer
IDEM, Air Permit Branch

(317) 233-6868 • MSURA@idem.in.gov

 |  |  |  |  | www.idem.IN.gov

Scan the QR code to leave your feedback.

We appreciate your input!



June 6, 2024

Indiana Department of Environmental Management
Office of Air Quality – Permits Branch
100 North State Avenue
MC 61-53 Room 1003
Indianapolis, IN 46204-2251

Re: **Application for a Revocation**
Lakeshore Railcar & Tanker Services LLC
1150 East 145th Street
East Chicago, IN

Dear Sir or Madam:

On behalf of our client, Lakeshore Railcar & Tanker Services LLC (LSRS), Weaver Consultants Group North Central, LLC (WCG) is submitting this application to revoke the Federally Enforceable State Operating Permit (FESOP) No. F089-37256-00469 [most-recent Minor Permit Revision no. 089-43729-00469] that the Facility currently operates under. This revocation application is being submitted per the email instructions of Environmental Engineer Mr. Mehul Suda of IDEM (see attachment). The FESOP permits the operation of the following emission units:

- One (1) non-pressurized rail tank car cleaning operation,
- One (1) truck tanker cleaning operation,
- One (1) pressurized rail tank car purging/degassing operation,
- One (1) liquid commodity transfer facility (Transloading Operation),
- One (1) portable shotblasting unit,
- One (1) 25.106 MMBtu/hr natural gas-fired boiler, and
- A rail tank car dismantling operation.

LSRS plans to shut down and has/will terminate the above-listed permitted operations. Simultaneous to LSRS's shutdown, Lakeshore Terminal Railroad LLC (LTR) plans to continue the transloading operation at the Facility as a new source. LTR submitted an application for a Registration [Registration No. R089-47845-00732] to IDEM on May 15, 2024. LSRS and LTR request that the revocation and Registration issuance occur

simultaneously so that there is no downtime in the transloading operations with LTR's transition to the Facility.

We trust that the enclosed information is sufficient for your needs to take action on this application and permit revocation at this time. Should you have any questions or need any additional information, please do not hesitate to contact either of the undersigned at 312-922-1030.

Sincerely,

Weaver Consultants Group North Central, LLC



Grayson Uhlir
Project Engineer



Wenjuan Zhai
Project Manager

Enclosure: Email Instructions
 State Forms 50639 & 50640

Email Instructions

From: [SURA, MEHUL](#)
To: [Uhlir, Grayson](#)
Subject: IDEM NOD No. 1 for Permit Application No. R089-47845-00732 for Lakeshore Terminal Railroad LLC
Date: Thursday, June 6, 2024 8:17:24 AM
Attachments: [image001.png](#)
[image002.png](#)
[image003.png](#)
[image004.png](#)
[image005.png](#)
[image006.png](#)
[image007.png](#)

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Please specify permit application number R089-47845-00732 in all correspondence.

Please send a reply e-mail to me confirming that you have received this request for additional information. If you have questions, concerns, or comments regarding this request for additional information, please contact me at your earliest convenience. Thank you in advance for your assistance in providing the information needed to complete your permitting action.



Mehul Sura
Environmental Engineer
IDEM, Air Permit Branch

(317) 233-6868 • MSURA@idem.in.gov

[YouTube](#) | [LinkedIn](#) | [Facebook](#) | [Instagram](#) | [Twitter](#) | www.idem.IN.gov

Scan the QR code to leave your feedback.

We appreciate your input!



State Forms 50639 & 50640



AIR PERMIT APPLICATION COVER SHEET
 State Form 50639 (R4 / 1-10)
 INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

IDEM – Office of Air Quality – Permits Branch
 100 N. Senate Avenue, MC 61-53 Room 1003
 Indianapolis, IN 46204-2251
 Telephone: (317) 233-0178 or
 Toll Free: 1-800-451-6027 x30178 (within Indiana)
 Facsimile Number: (317) 232-6749
www.IN.gov/idem

NOTES:

- The purpose of this cover sheet is to obtain the core information needed to process the air permit application. This cover sheet is required for all air permit applications submitted to IDEM, OAQ. Place this cover sheet on top of all subsequent forms and attachments that encompass your air permit application packet.
- Submit the completed air permit application packet, including all forms and attachments, to **IDEM Air Permits Administration** using the address in the upper right hand corner of this page.
- IDEM will send a bill to collect the filing fee and any other applicable fees.
- Detailed instructions for this form are available on the Air Permit Application Forms website.

FOR OFFICE USE ONLY	
PERMIT NUMBER:	
DATE APPLICATION WAS RECEIVED:	

1. Tax ID Number:

PART A: Purpose of Application

Part A identifies the purpose of this air permit application. For the purposes of this form, the term "source" refers to the plant site as a whole and NOT to individual emissions units.

2. Source / Company Name:	Lakeshore Railcar & Tanker Services LLC	3. Plant ID:	089 – 00469
4. Billing Address:	1150 East 145 th Street		
City:	East Chicago	State:	IN
		ZIP Code:	46312 –
5. Permit Level:	<input type="checkbox"/> Exemption <input type="checkbox"/> Registration <input type="checkbox"/> SSOA <input type="checkbox"/> MSOP <input checked="" type="checkbox"/> FESOP <input type="checkbox"/> TVOP <input type="checkbox"/> PBR		
6. Application Summary:	<i>Check all that apply. Multiple permit numbers may be assigned as needed based on the choices selected below.</i>		
	<input type="checkbox"/> Initial Permit <input type="checkbox"/> Renewal of Operating Permit <input type="checkbox"/> Asphalt General Permit <input type="checkbox"/> Review Request <input checked="" type="checkbox"/> Revocation of Operating Permit <input type="checkbox"/> Alternate Emission Factor Request <input type="checkbox"/> Interim Approval <input type="checkbox"/> Relocation of Portable Source <input type="checkbox"/> Acid Deposition (Phase II) <input type="checkbox"/> Site Closure <input type="checkbox"/> Emission Reduction Credit Registry		
	<input type="checkbox"/> Transition (between permit levels) From: To:		
	<input type="checkbox"/> Administrative Amendment: <input type="checkbox"/> Company Name Change <input type="checkbox"/> Change of Responsible Official <input type="checkbox"/> Correction to Non-Technical Information <input type="checkbox"/> Notice Only Change <input type="checkbox"/> Other (specify):		
	<input type="checkbox"/> Modification: <input type="checkbox"/> New Emission Unit or Control Device <input type="checkbox"/> Modified Emission Unit or Control Device <input type="checkbox"/> New Applicable Permit Requirement <input type="checkbox"/> Change to Applicability of a Permit Requirement <input type="checkbox"/> Prevention of Significant Deterioration <input type="checkbox"/> Emission Offset <input type="checkbox"/> MACT Preconstruction Review <input type="checkbox"/> Minor Source Modification <input type="checkbox"/> Significant Source Modification <input type="checkbox"/> Minor Permit Modification <input type="checkbox"/> Significant Permit Modification <input type="checkbox"/> Other (specify):		
7. Is this an application for an initial construction and/or operating permit for a "Greenfield" Source?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		
8. Is this an application for construction of a new emissions unit at an Existing Source?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		

PART B: Pre-Application Meeting

Part B specifies whether a meeting was held or is being requested to discuss the permit application.

9. Was a meeting held between the company and IDEM prior to submitting this application to discuss the details of the project?

No Yes: *Date:*

10. Would you like to schedule a meeting with IDEM management and your permit writer to discuss the details of this project?

No Yes: *Proposed Date for Meeting:*

PART C: Confidential Business Information

Part C identifies permit applications that require special care to ensure that confidential business information is kept separate from the public file.

Claims of confidentiality must be made at the time the information is submitted to IDEM, and must follow the requirements set out in the Indiana Administrative Code (IAC). To ensure that your information remains confidential, refer to the IDEM, OAQ information regarding submittal of confidential business information. For more information on confidentiality for certain types of business information, please review IDEM's Nonrule Policy Document Air-031-NPD regarding Emission Data.

11. Is any of the information contained within this application being claimed as **Confidential Business Information**?

No Yes

PART D: Certification Of Truth, Accuracy, and Completeness

Part D is the official certification that the information contained within the air permit application packet is truthful, accurate, and complete. Any air permit application packet that we receive without a signed certification will be deemed incomplete and may result in denial of the permit.

For a Part 70 Operating Permit (TVOP) or a Source Specific Operating Agreement (SSOA), a "responsible official" as defined in 326 IAC 2-7-1(34) must certify the air permit application. For all other applicants, this person is an "authorized individual" as defined in 326 IAC 2-1.1-1(1).

I certify under penalty of law that, based on information and belief formed after reasonable inquiry, the statements and information contained in this application are true, accurate, and complete.

Clint Morris
Name (typed)


Signature

Operations Manager
Title

6/6/2024
Date

**OAQ GENERAL SOURCE DATA APPLICATION****GSD-01: Basic Source Level Information**

State Form 50640 (R5 / 1-10)

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

IDEM – Office of Air Quality – Permits Branch
 100 N. Senate Avenue, MC 61-53 Room 1003
 Indianapolis, IN 46204-2251
 Telephone: (317) 233-0178 or
 Toll Free: 1-800-451-6027 x30178 (within Indiana)
 Facsimile Number: (317) 232-6749
www.IN.gov/idem

NOTES:

- The purpose of GSD-01 is to provide essential information about the entire source of air pollutant emissions. GSD-01 is a required form.
- Detailed instructions for this form are available on the Air Permit Application Forms website.
- All information submitted to IDEM will be made available to the public unless it is submitted under a claim of confidentiality. Claims of confidentiality must be made at the time the information is submitted to IDEM, and must follow the requirements set out in 326 IAC 17.1-4-1. Failure to follow these requirements exactly will result in your information becoming a public record, available for public inspection.

PART A: Source / Company Location Information

1. Source / Company Name: Lakeshore Railcar & Tanker Services LLC		2. Plant ID: 089 – 00469	
3. Location Address: 1150 East 145 th Street			
City: East Chicago	State: IN	ZIP Code: 46312 –	
4. County Name: Lake		5. Township Name: North	
6. Geographic Coordinates:			
Latitude: 41.632577°		Longitude: -87.457268°	
7. Universal Transferred Mercator Coordinates (if known):			
Zone: 16	Horizontal: 461914.58 m E	Vertical: 4609087.62 m N	
8. Adjacent States: Is the source located within 50 miles of an adjacent state? <input type="checkbox"/> No <input checked="" type="checkbox"/> Yes – <i>Indicate Adjacent State(s):</i> <input checked="" type="checkbox"/> Illinois (IL) <input type="checkbox"/> Michigan (MI) <input type="checkbox"/> Ohio (OH) <input type="checkbox"/> Kentucky (KY)			
9. Attainment Area Designation: Is the source located within a non-attainment area for any of the criteria air pollutants? <input checked="" type="checkbox"/> No <input type="checkbox"/> Yes – <i>Indicate Nonattainment Pollutant(s):</i> <input type="checkbox"/> CO <input type="checkbox"/> Pb <input type="checkbox"/> NO _x <input type="checkbox"/> O ₃ <input type="checkbox"/> PM <input type="checkbox"/> PM ₁₀ <input type="checkbox"/> PM _{2.5} <input type="checkbox"/> SO ₂			
10. Portable / Stationary: Is this a portable or stationary source? <input type="checkbox"/> Portable <input checked="" type="checkbox"/> Stationary			

PART B: Source Summary

11. Company Internet Address (optional):	
12. Company Name History: Has this source operated under any other name(s)? <input type="checkbox"/> No <input checked="" type="checkbox"/> Yes – <i>Provide information regarding past company names in Part I, Company Name History.</i>	
13. Portable Source Location History: Will the location of the portable source be changing in the near future? <input checked="" type="checkbox"/> Not Applicable <input type="checkbox"/> No <input type="checkbox"/> Yes – <i>Complete Part J, Portable Source Location History, and Part K, Request to Change Location of Portable Source.</i>	
14. Existing Approvals: Have any exemptions, registrations, or permits been issued to this source? <input type="checkbox"/> No <input checked="" type="checkbox"/> Yes – <i>List these permits and their corresponding emissions units in Part M, Existing Approvals.</i>	
15. Unpermitted Emissions Units: Does this source have any unpermitted emissions units? <input checked="" type="checkbox"/> No <input type="checkbox"/> Yes – <i>List all unpermitted emissions units in Part N, Unpermitted Emissions Units.</i>	
16. New Source Review: Is this source proposing to construct or modify any emissions units? <input checked="" type="checkbox"/> No <input type="checkbox"/> Yes – <i>List all proposed new construction in Part O, New or Modified Emissions Units.</i>	
17. Risk Management Plan: Has this source submitted a Risk Management Plan? <input checked="" type="checkbox"/> Not Required <input type="checkbox"/> No <input type="checkbox"/> Yes → Date submitted: _____ EPA Facility Identifier: – –	

PART C: Source Contact Information

IDEM will send the original, signed permit decision to the person identified in this section. This person MUST be an employee of the permitted source.

18. Name of Source Contact Person: Clint Morris

19. Title (optional): Operations Manager

20. Mailing Address: 1150 East 145th Street

City: East Chicago

State: IN

ZIP Code: 46312 –

21. Electronic Mail Address (optional):

22. Telephone Number: (219) 314 – 6796

23. Facsimile Number (optional): () –

PART D: Authorized Individual/Responsible Official Information

IDEM will send a copy of the permit decision to the person indicated in this section, if the Authorized Individual or Responsible Official is different from the Source Contact specified in Part C.

24. Name of Authorized Individual or Responsible Official: Clint Morris

25. Title: Operations Manager

26. Mailing Address: 1150 East 145th Street

City: East Chicago

State: IN

ZIP Code: 46312 –

27. Telephone Number: (219) 314 – 6796

28. Facsimile Number (optional): () –

29. Request to Change the Authorized Individual or Responsible Official: Is the source officially requesting to change the person designated as the Authorized Individual or Responsible Official in the official documents issued by IDEM, OAQ? *The permit may list the title of the Authorized Individual or Responsible Official in lieu of a specific name.*

No Yes – **Change Responsible Official to:**

PART E: Owner Information

30. Company Name of Owner: Lakeshore Railcar & Tanker Services, LLC

31. Name of Owner Contact Person: Clint Morris

32. Mailing Address: 1150 East 145th Street

City: East Chicago

State: IN

ZIP Code: 46312 –

33. Telephone Number: (219) 314 – 6796

34. Facsimile Number (optional): () –

34. Operator: Does the “Owner” company also operate the source to which this application applies?

No – *Proceed to Part F below.* Yes – *Enter “SAME AS OWNER” on line 35 and proceed to Part G below.*

PART F: Operator Information

35. Company Name of Operator: Same as Owner

36. Name of Operator Contact Person:

37. Mailing Address:

City:

State:

ZIP Code: –

38. Telephone Number: () –

39. Facsimile Number (optional): () –

PART G: Agent Information

40. Company Name of Agent: Weaver Consultants Group

41. Type of Agent: Environmental Consultant Attorney Other (specify):

42. Name of Agent Contact Person: Grayson Uhlir

43. Mailing Address: 35 East Wacker Drive, Suite 1250

City: Chicago	State: IL	ZIP Code: 60601 –
----------------------	------------------	--------------------------

44. Electronic Mail Address (optional): guhlir@wcgrp.com

45. Telephone Number: (312) 922 – 1030 **46. Facsimile Number (optional):** () –

47. Request for Follow-up: Does the “Agent” wish to receive a copy of the preliminary findings during the public notice period (if applicable) and a copy of the final determination? No Yes

PART H: Local Library Information

48. Date application packet was filed with the local library: TBD

49. Name of Library: East Chicago Public Library

50. Name of Librarian (optional):

51. Mailing Address: 2401 East Columbus Drive

City: East Chicago	State: IN	ZIP Code: 46312 –
---------------------------	------------------	--------------------------

52. Internet Address (optional):

53. Electronic Mail Address (optional):

54. Telephone Number: (219) 397 – 2453 **55. Facsimile Number (optional):** () –

PART I: Company Name History (if applicable)

Complete this section only if the source has previously operated under a legal name that is different from the name listed above in Section A.

56. Legal Name of Company	57. Dates of Use
United Transportation Group	9/2001 to 10/1/2016
	to
	to
	to
	to
	to
	to
	to
	to
	to

58. Company Name Change Request: Is the source officially requesting to change the legal name that will be printed on all official documents issued by IDEM, OAQ?
 No Yes – **Change Company Name to:**

PART L: Source Process Description

Complete this section to summarize the main processes at the source.

64. Process Description	65. Products	66. SIC Code	67. NAICS Code
Support Activities for Road Transportation	Cleaned Truck Tankers	4789	488490
Support Activities for Rail Transportation	Cleaned Railcars	4789	488210
Transloading Operations	Transloaded Products	4731	488510

PART M: Existing Approvals (if applicable)

Complete this section to summarize the approvals issued to the source since issuance of the main operating permit.

68. Permit ID	69. Emissions Unit IDs	70. Expiration Date
089-43729-00469	Non-Pressurized Rail Tank Car Cleaning Operation, Truck Tanker Cleaning Operation, Pressurized Rail Tank Car Purging/Degassing Operation, Transloading Operation, PSB1, B2, and HT	10/1/2026

PART N: Unpermitted Emissions Units (if applicable)

Complete this section only if the source has emission units that are not listed in any permit issued by IDEM, OAQ.

71. Emissions Unit ID	72. Type of Emissions Unit	73. Actual Dates		
		Began Construction	Completed Construction	Began Operation
N/A				

PART O: New or Modified Emissions Units (if applicable)

Complete this section only if the source is proposing to add new emission units or modify existing emission units.

74. Emissions Unit ID	75. NEW	76. MOD	77. Type of Emissions Unit	78. Estimated Dates		
				Begin Construction	Complete Construction	Begin Operation
N/A						

From: [Uhlir, Grayson](#)
To: [SURA, MEHUL](#)
Subject: RE: IDEM NOD No. 1 for Permit Application No. R089-47845-00732 for Lakeshore Terminal Railroad LLC
Date: Thursday, June 6, 2024 3:22:42 PM
Attachments: [image001.png](#)
[image002.png](#)
[image003.png](#)
[image004.png](#)
[image005.png](#)
[image006.png](#)
[image007.png](#)
[image008.png](#)
[image009.png](#)
[image010.png](#)
[image236702.png](#)
[image315089.png](#)
[image156756.png](#)

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Understood, thank you for clarifying.

Best,
Grayson

Grayson Uhlir
Project Engineer

 **Weaver Consultants Group**

35 E. Wacker Drive | Suite 1250

Chicago, IL 60601

O: 312-922-1030 | F: 312-922-0201 | M: 708-870-0622

guhli@wcgrp.com | www.wcgrp.com 



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From: SURA, MEHUL <MSURA@idem.IN.gov>
Sent: Thursday, June 6, 2024 2:21 PM
To: Uhlir, Grayson <guhli@wcgrp.com>
Subject: RE: IDEM NOD No. 1 for Permit Application No. R089-47845-00732 for Lakeshore Terminal Railroad LLC

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opening attachments or clicking links, especially from unknown senders.

You do not need to send revocation application to the library.

From: Uhlir, Grayson <guhkir@wcgrp.com>

Sent: Thursday, June 6, 2024 3:15 PM

To: SURA, MEHUL <MSURA@idem.IN.gov>

Subject: RE: IDEM NOD No. 1 for Permit Application No. R089-47845-00732 for Lakeshore Terminal Railroad LLC

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Good afternoon, Mehul:

Understood. Please find attached the Revocation application that was submitted to IDEM and which will be filed at the local library (East Chicago Public Library) tomorrow.

Please let me know if you have any questions or if additional information is needed.

Sincerely,
Grayson

Grayson Uhlir
Project Engineer

 **Weaver Consultants Group**

35 E. Wacker Drive | Suite 1250

Chicago, IL 60601

O: [312-922-1030](tel:312-922-1030) | F: [312-922-0201](tel:312-922-0201) | M: [708-870-0622](tel:708-870-0622)

guhkir@wcgrp.com | www.wcgrp.com 



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From: SURA, MEHUL <MSURA@idem.IN.gov>

Sent: Thursday, June 6, 2024 8:17 AM

To: Uhlir, Grayson <guhkir@wcgrp.com>

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Your written or emailed response (e-mail is preferred) to this NOD must be received by IDEM within sixty (60) days of the date the NOD is sent. The deadline for providing this information is August 5, 2024.

Pursuant to IC 13-15-4-10, the accountability time period has been suspended until the additional information has been received and determined to be adequate. IDEM's Nonrule Policy Document for Air Permit Applications: Notices of Deficiency and Placing Applications on Hold (Air 033 NPD) is available at: https://www.in.gov/idem/files/nrpd_air-033.pdf.

Please specify permit application number R089-47845-00732 in all correspondence.

Please send a reply e-mail to me confirming that you have received this request for additional information. If you have questions, concerns, or comments regarding this request for additional information, please contact me at your earliest convenience. Thank you in advance for your assistance in providing the information needed to complete your permitting action.



Mehul Sura
Environmental Engineer
IDEM, Air Permit Branch

(317) 233-6868 • MSURA@idem.in.gov

 |  |  |  |  | www.idem.IN.gov

Scan the QR code to leave your feedback.

We appreciate your input!



From: [SURA, MEHUL](#)
To: [Uhlir, Grayson](#)
Subject: Applicant Review for Registration No. R089-47845-00732 for Lakeshore Terminal Railroad LLC
Date: Friday, June 7, 2024 12:47:00 PM
Attachments: [47845tsd.docx](#)
[47845attA.docx](#)
[47845calcs .xlsx](#)
[47845per.docx](#)

Good afternoon,

Attached please find the draft Registration and supporting documents for review. As a courtesy, this draft is being provided to you for an opportunity to review and provide comments prior to the issuance of the permit approval.

The time clock for Registration permit No.: R089-47845-00732 will be stopped during your review until you either provide comments or indicate that you do not have any comments. Due to permit accountability and IDEM's intention to issue the permit in a timely manner, you are being allotted 7 days to provide comments in writing. If you have any conflicts or special circumstances that would impede your review process during the time allotted, please notify me directly at the email address or phone number listed below as soon as possible. If you have not responded on or before June 13, 2024, IDEM will assume that you have no comments pertaining to this draft and all files will be forwarded for issuance.

During this review period, I will be available to address your concerns, answer any questions that you may have, or make necessary revisions to this draft.

Pursuant to 326 IAC 2-1.1-7, the fee for this permitting action is expected to be \$1100, which is based on the following:

\$500	Each NSPS Review: \$500 (Subparts Dc)
\$600	Registration (New Source Subject to 326 IAC 2-5.5)

Please note: This is not a bill. This represents the anticipated fee and is subject to change if additional review is required or the permit level changes for some reason (e.g. an additional NESHAP review is required). You will receive a final bill from the OAQ Permits Administration and Support Section.

Sincerely,

Mehul Sura
IDEM, OAQ, Air Permit Writer
Phone: 317-233-6868

From: [Uhlir, Grayson](#)
To: [SURA, MEHUL](#)
Subject: RE: Applicant Review for Registration No. R089-47845-00732 for Lakeshore Terminal Railroad LLC
Date: Friday, June 7, 2024 4:26:19 PM
Attachments: [image738604.png](#)
[image313769.png](#)
[image861142.png](#)

**** This is an EXTERNAL email. Exercise caution. DO NOT open attachments or click links from unknown senders or unexpected email. ****

Mehul,

Thank you very much! We began our review today and will get back to you as soon as possible next week.

Sincerely,
Grayson

Grayson Uhlir
Project Engineer

 **Weaver Consultants Group**

35 E. Wacker Drive | Suite 1250

Chicago, IL 60601

O: 312-922-1030 | F: 312-922-0201 | M: 708-870-0622

guhli@wgrp.com | www.wgrp.com 



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From: SURA, MEHUL <MSURA@idem.IN.gov>
Sent: Friday, June 7, 2024 11:48 AM
To: Uhlir, Grayson <guhli@wgrp.com>
Subject: Applicant Review for Registration No. R089-47845-00732 for Lakeshore Terminal Railroad LLC

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Sincerely,

Mehul Sura
IDEM, OAQ, Air Permit Writer
Phone: 317-233-6868

From: [Uhlir, Grayson](#)
To: [SURA, MEHUL](#)
Subject: RE: Applicant Review for Registration No. R089-47845-00732 for Lakeshore Terminal Railroad LLC
Date: Wednesday, June 12, 2024 4:13:58 PM
Attachments: [image841097.png](#)
[image796858.png](#)
[image814864.png](#)
[47845per - GCU.docx](#)
[47845tsd - GCU.docx](#)
[47845calcs - GCU.xlsx](#)

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Mehul,

Thank you very much! Please find attached the draft Registration and supporting documentation with our comments/revisions – please let us know if you have any questions.

Sincerely,
Grayson

Grayson Uhlir
Project Engineer

 **Weaver Consultants Group**

35 E. Wacker Drive | Suite 1250

Chicago, IL 60601

O: 312-922-1030 | F: 312-922-0201 | M: 708-870-0622

guhli@wcgrp.com | www.wcgrp.com 



SAFETY FIRST, TRUSTED ADVISORS, 12:1 CULTURE

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Sent: Friday, June 7, 2024 11:48 AM
To: Uhlir, Grayson <guhli@wcgrp.com>
Subject: Applicant Review for Registration No. R089-47845-00732 for Lakeshore Terminal Railroad LLC

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Good afternoon,

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Sincerely,

Mehul Sura
IDEM, OAQ, Air Permit Writer
Phone: 317-233-6868



INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

We Protect Hoosiers and Our Environment.

100 N. Senate Avenue • Indianapolis, IN 46204

(800) 451-6027 • (317) 232-8603 • www.idem.IN.gov

Eric J. Holcomb
Governor

Brian C. Rockensuess
Commissioner

**REGISTRATION
OFFICE OF AIR QUALITY**

**Lakeshore Terminal Railroad LLC
1150 East 145th Street
East Chicago, Indiana 46312**

Pursuant to 326 IAC 2-5.1 (Construction of New Sources: Registrations) and 326 IAC 2-5.5 (Registrations), (herein known as the Registrant) is hereby authorized to construct and operate subject to the conditions contained herein, the source described in Section A (Source Summary) of this registration.

Registration No. R089-47845-00732	
Master Agency Interest ID.: 12627	
Issued by:	Issuance Date:
Madhurima D. Moulik, Ph.D., Section Chief Permits Branch Office of Air Quality	

SECTION A SOURCE SUMMARY

This registration is based on information requested by the Indiana Department of Environmental Management (IDEM), Office of Air Quality (OAQ). The information describing the source contained in conditions A.1 and A.2 is descriptive information and does not constitute enforceable conditions. However, the Registrant should be aware that a physical change or a change in the method of operation that may render this descriptive information obsolete or inaccurate may trigger requirements for the Registrant to obtain additional permits pursuant to 326 IAC 2.

A.1 General Information

The Registrant owns and operates a liquid transloading operation.

Source Address: 1150 East 145th Street, East Chicago, IN 46312
General Source Phone Number: (219) 314-6796
SIC Code: 4731 (Transloaded Products)
County Location: Lake (North Township)
Source Location Status: Nonattainment for ozone
Attainment for all other criteria pollutants
Source Status: Registration

A.2 Emission Units and Pollution Control Equipment Summary

This stationary source consists of the following emission units and pollution control devices:

- (a) One liquid transloading operation, identified as EU1, approved in 2024 for construction, handling a maximum of 60,000 gal/day of liquid commodity, without control, and exhausting outside.
- (b) One diesel fuel dispensing operation (DFDS), approved in 2024 for construction, with maximum storage capacity 10,500 gallons and dispensing 3,500 gal/day or less diesel.
- (c) One (1) natural gas-fired boiler, identified as B1, approved in 2024 for construction, with a maximum heat input capacity of 5.02 MMBtu per hour, and exhausting outside.

~~Under of 40 CFR 60, Subpart Dc, this facility is considered an affected.~~

- (d) One (1) natural gas-fired boiler, identified as B2, approved in 2024 for construction, with a maximum heat input capacity of 25.1062 MMBtu per hour, and exhausting outside.

~~Under-of 40 CFR 60, Subpart Dc, this faeility-unit is considered an affected facility.~~

- (e) Two (2) natural gas-fired HVAC units, approved in 2024 for construction, each with a maximum heat input capacity of 0.05 MMBtu per hour, and exhausting outside.
- (f) Five (5) natural gas-fired heaters, approved in 2024 for construction, each with a maximum heat input capacity of 0.25 MMBtu per hour, and exhausting outside.
- (g) Paved roads.

Commented [GU1]: Heat input capacity is less than 10 MMBtu/hr - not applicable. This is stated in the TSD.

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SECTION B GENERAL CONDITIONS

B.1 Definitions [326 IAC 2-1.1-1]

Terms in this registration shall have the definition assigned to such terms in the referenced regulation. In the absence of definitions in the referenced regulation, the applicable definitions found in the statutes or regulations (IC 13-11, 326 IAC 1-2 and 326 IAC 2-1.1-1) shall prevail.

B.2 Effective Date of Registration [IC 13-15-5-3]

Pursuant to IC 13-15-5-3, this registration R089-47845-00732 is effective immediately, unless a petition for stay of effectiveness is filed and granted according to IC 13-15-6-3, and may be revoked or modified in accordance with the provisions of IC 13-15-7-1.

B.3 Registration Revocation [326 IAC 2-1.1-9]

Pursuant to 326 IAC 2-1.1-9 (Revocation), this registration to operate may be revoked for any of the following causes:

- (a) Violation of any conditions of this registration.
- (b) Failure to disclose all the relevant facts, or misrepresentation in obtaining this registration.
- (c) Changes in regulatory requirements that mandate either a temporary or permanent reduction of discharge of contaminants. However, the amendment of appropriate sections of this registration shall not require revocation of this registration.
- (d) For any cause which establishes in the judgment of IDEM the fact that continuance of this registration is not consistent with purposes of this article.

B.4 Prior Permits Superseded [326 IAC 2-1.1-9.5]

(a) All terms and conditions of permits established prior to Registration No. R089-47845-00732 and issued pursuant to permitting programs approved into the state implementation plan have been either:

- (1) incorporated as originally stated,
- (2) revised, or
- (3) deleted.

(b) All previous registrations and permits are superseded by this registration.

B.5 Annual Notification [326 IAC 2-5.1-2(f)(3)] [326 IAC 2-5.5-4(a)(3)]

Pursuant to 326 IAC 2-5.1-2(f)(3) and 326 IAC 2-5.5-4(a)(3):

- (a) An annual notification shall be submitted by an authorized individual to the Office of Air Quality stating whether or not the source is in operation and in compliance with the terms and conditions contained in this registration.
- (b) The annual notice shall be submitted in the format attached no later than March 1 of each year to:

Indiana Department of Environmental Management
Compliance and Enforcement Branch, Office of Air Quality
100 North Senate Avenue
MC 61-53 IGCN 1003
Indianapolis, IN 46204-2251

- (c) The notification shall be considered timely if the date postmarked on the envelope or certified mail receipt, or affixed by the shipper on the private shipping receipt, is on or before the date it is due. If the document is submitted by any other means, it shall be considered timely if received by IDEM, OAQ on or before the date it is due.

B.6 Source Modification Requirement [326 IAC 2-5.5-6(a)]

Pursuant to 326 IAC 2-5.5-6(a), an application or notification shall be submitted in accordance with 326 IAC 2 to the Office of Air Quality (OAQ) if the source proposes to construct new emission units, modify existing emission units, or otherwise modify the source.

B.7 Registrations [326 IAC 2-5.1-2(i)]

Pursuant to 326 IAC 2-5.1-2(i), this registration does not limit the source's potential to emit.

B.8 Preventive Maintenance Plan [326 IAC 1-6-3]

- (a) If required by specific condition(s) in Section D of this registration, the Registrant shall prepare and maintain Preventive Maintenance Plans (PMPs) no later than ninety (90) days after issuance of this registration or ninety (90) days after initial start-up, whichever is later, including the following information on each facility:

- (1) Identification of the individual(s) responsible for inspecting, maintaining, and repairing emission control devices;
- (2) A description of the items or conditions that will be inspected and the inspection schedule for said items or conditions; and
- (3) Identification and quantification of the replacement parts that will be maintained in inventory for quick replacement.

If, due to circumstances beyond the Registrant's control, the PMPs cannot be prepared and maintained within the above time frame, the Registrant may extend the date an additional ninety (90) days provided the Registrant notifies:

Indiana Department of Environmental Management
Compliance and Enforcement Branch, Office of Air Quality
100 North Senate Avenue
MC 61-53 IGCN 1003
Indianapolis, Indiana 46204-2251

The Registrant shall implement the PMPs.

- (b) A copy of the PMPs shall be submitted to IDEM, OAQ upon request and within a reasonable time, and shall be subject to review and approval by IDEM, OAQ. IDEM, OAQ may require the Registrant to revise its PMPs whenever lack of proper maintenance causes or is the primary contributor to an exceedance of any limitation on emissions.
- (c) To the extent the Registrant is required by 40 CFR Part 60 or 40 CFR Part 63 to have an Operation Maintenance, and Monitoring (OMM) Plan for a unit, such OMM Plan is deemed to satisfy the PMP requirements of 326 IAC 1-6-3 for that unit.

SECTION C SOURCE OPERATION CONDITIONS

Entire Source

Emission Limitations and Standards [326 IAC 2-5.1-2(g)] [326 IAC 2-5.5-4(b)]

C.1 Opacity [326 IAC 5-1]

Pursuant to 326 IAC 5-1-2 (Opacity Limitations), except as provided in 326 IAC 5-1-1 (Applicability) and 326 IAC 5-1-3 (Temporary Alternative Opacity Limitations), opacity shall meet the following, unless otherwise stated in this registration:

- (a) Opacity shall not exceed an average of twenty percent (20%) in any one (1) six (6) minute averaging period as determined in 326 IAC 5-1-4.
- (b) Opacity shall not exceed sixty percent (60%) for more than a cumulative total of fifteen (15) minutes (sixty (60) readings as measured according to 40 CFR 60, Appendix A, Method 9 or fifteen (15) one (1) minute nonoverlapping integrated averages for a continuous opacity monitor) in a six (6) hour period.

C.2 Fugitive Dust Emissions [326 IAC 6-4]

The Registrant shall not allow fugitive dust to escape beyond the property line or boundaries of the property, right-of-way, or easement on which the source is located, in a manner that would violate 326 IAC 6-4 (Fugitive Dust Emissions).

SECTION D.1 EMISSION UNIT OPERATION CONDITIONS

Emission Unit Description:

(c) One (1) natural gas-fired boiler, identified as B1, approved in 2024 for construction, with a maximum heat input capacity of 5.02 MMBtu per hour, and exhausting outside.

~~Under of 40 CFR 60, Subpart Dc, this facility is considered an affected.~~

(d) One (1) natural gas-fired boiler, identified as B2, approved in 2024 for construction, with a maximum heat input capacity of 25.1062 MMBtu per hour, and exhausting outside.

Under of 40 CFR 60, Subpart Dc, this ~~facility-unit~~ is considered an affected ~~facility~~.

(The information describing the process contained in this emissions unit description box is descriptive information and does not constitute enforceable conditions.)

Commented [GU2]: Heat input capacity is less than 10 MMBtu/hr - *not applicable*. This is stated in the TSD.

Emission Limitations and Standards [326 IAC 2-5.1-2(f)(1)] [326 IAC 2-5.5-4(a)(1)]

D.7.1 Particulate Emissions [326 IAC 6-2-4]

Pursuant to 326 IAC 6-2-4 (Particulate Emission Limitations for Sources of Indirect Heating), the PM emissions from the following units shall be limited to the PM emission limit (Pt) in pounds per MMBtu heat input as specified in the following table:

Emission Unit	Pt (lb/MMBtu)
Nnatural Ggas-fired Bboiler B1	0.454
Nnatural Ggas-fired Bboiler B2	0.454

Commented [GU3]: See corrections in TSD.

D.1.2 Preventive Maintenance Plan [326 IAC 1-6-3]

A Preventive Maintenance Plan is required for these facilities and their control devices. -Section B - Preventive Maintenance Plan contains the Registrant's obligation with regard to the preventive maintenance plan required by this condition.

SECTION E.1

NSPS REQUIREMENTS

Emission Unit Description:

~~(c) One (1) natural gas-fired boiler, identified as B1, approved in 2024 for construction, with a maximum heat input capacity of 5.02 MMBtu per hour, and exhausting outside.~~

~~Under of 40 CFR 60, Subpart Dc, this facility is considered an affected.~~

(d) One (1) natural gas-fired boiler, identified as B2, approved in 2024 for construction, with a maximum heat input capacity of 25.1062 MMBtu per hour, and exhausting outside.

Under of 40 CFR 60, Subpart Dc, this ~~facility-unit~~ is considered an affected ~~facility~~.

(The information describing the process contained in this emissions unit description box is descriptive information and does not constitute enforceable conditions.)

Commented [UG4]: Heat input capacity is less than 10 MMBtu/hr - *not applicable*. This is stated in the TSD.

E.1.1 General Provisions Relating to New Source Performance Standards [326 IAC 12-1] [40 CFR Part 60, Subpart A]

- (a) Pursuant to 40 CFR 60.1, the Registrant shall comply with the provisions of 40 CFR Part 60, Subpart A – General Provisions, which are incorporated by reference as 326 IAC 12-1, for the emission unit(s) listed above, except as otherwise specified in 40 CFR Part 60, Subpart Dc.
- (b) Pursuant to 40 CFR 60.4, the Registrant shall submit all required notifications and reports to:

Indiana Department of Environmental Management
Compliance and Enforcement Branch, Office of Air Quality
100 North Senate Avenue
MC 61-53 IGCN 1003
Indianapolis, Indiana 46204-2251

and

United States Environmental Protection Agency, Region 5
Air and Radiation Division, Air Enforcement Branch - Indiana (AE-17J)
77 West Jackson Boulevard
Chicago, Illinois 60604-3590

E.1.2 Small Industrial-Commercial-Institutional Steam Generating Units NSPS [326 IAC 12] [40 CFR Part 60, Subpart Dc]

The Registrant shall comply with the following provisions of 40 CFR Part 60, Subpart Dc (included as Attachment A to the registration), which are incorporated by reference as 326 IAC 12, for the emission unit(s) listed above:

- (1) 40 CFR 60.40c (a)
- (2) 40 CFR 60.41c
- (3) 40 CFR 60.48c (a) ~~and, (g)(1), (g)(2)~~

Commented [GU5]: The facility elects to comply with g(2).

**INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF AIR QUALITY
COMPLIANCE AND ENFORCEMENT BRANCH**

**REGISTRATION
ANNUAL NOTIFICATION**

This form should be used to comply with the notification requirements under 326 IAC 2-5.1-2(f)(3) and 326 IAC 2-5.5-4(a)(3).

Company Name:	Lakeshore Terminal Railroad LLC
Source Address:	1150 East 145th Street, East Chicago, IN 46312
City:	East Chicago, Indiana, 46312
Phone Number:	(219) 314-6796
Registration No.:	R089-47845-00732

- I hereby certify that Lakeshore Terminal Railroad LLC is: still in operation.
 no longer in operation.
- I hereby certify that Lakeshore Terminal Railroad LLC is: in compliance with the requirements of Registration No. R089-47845-00732.
 not in compliance with the requirements of Registration No. R089-47845-00732.

Authorized Individual (typed):	
Title:	
Signature:	Date:
Email Address:	Phone:

If there are any conditions or requirements for which the source is not in compliance, provide a narrative description of how the source did or will achieve compliance and the date compliance was, or will be achieved.

Noncompliance:

**Indiana Department of Environmental Management
Office of Air Quality**

Technical Support Document (TSD) for a Registration

Source Description and Location

Source Name: Lakeshore Terminal Railroad LLC
Source Location: 1150 East 145th Street, East Chicago, IN 46312
County: Lake (North Township)
SIC Code: 4731 (Transloaded Products)
Registration No.: R089-47845-00732
Permit Reviewer: Mehul Sura

On May 15, 2024, the Office of Air Quality (OAQ) received an application from Lakeshore Terminal Railroad LLC related to the construction and operation of a new liquid transloading operation.

Existing Approvals

There have been no previous approvals issued to this source.

County Attainment Status

The source is located in Lake (North Township) County.

Pursuant to amendments to Indiana Code IC 13-17-3-14, effective July 1, 2023, a federal regulation that classifies or amends a designation of attainment, nonattainment, or unclassifiable for any area in Indiana under the federal Clean Air Act is effective and enforceable in Indiana on the effective date of the federal regulation.

Pollutant	Designation
SO ₂	Unclassifiable or attainment effective April 9, 2018, for the 2010 primary 1-hour SO ₂ standard. Better than national secondary standards effective March 3, 1978.
CO	Attainment effective February 18, 2000, for the part of the city of East Chicago bounded by Columbus Drive on the north; the Indiana Harbor Canal on the west; 148 th Street, if extended, on the south; and Euclid Avenue on the east. Unclassifiable or attainment effective November 15, 1990, for the remainder of East Chicago and Lake County.
O ₃	Attainment effective May 20, 2022, for the 2008 8-hour ozone standard.
O ₃	Moderate nonattainment effective November 7, 2022, for the 2015 8-hour ozone standard for Calumet, Hobart, North, Ross, and St. John townships. Unclassifiable or attainment effective August 3, 2018, for the remainder of the county.
PM _{2.5}	Unclassifiable or attainment effective January 28, 2019, for the 2012 annual PM _{2.5} standard.
PM _{2.5}	Unclassifiable or attainment effective December 13, 2009, for the 2006 24-hour PM _{2.5} standard.
PM ₁₀	Attainment effective March 11, 2003, for the cities of East Chicago, Hammond, Whiting, and Gary. Unclassifiable effective November 15, 1990, for the remainder of Lake County.
NO ₂	Unclassifiable or attainment effective January 29, 2012, for the 2010 NO ₂ standard.
Pb	Unclassifiable or attainment effective December 31, 2011, for the 2008 lead standard.

- (a) Ozone Standards
 U.S. EPA, in the Federal Register Notice 87 FR 60897 dated October 7, 2022, designated Lake County (North Township), as moderate nonattainment for the 2015 8-hour ozone standard effective November 7, 2022. Volatile organic compounds (VOC) and Nitrogen Oxides (NOx) are regulated under the Clean Air Act (CAA) for the purposes of attaining and maintaining the National Ambient Air Quality Standards (NAAQS) for ozone. Therefore, VOC and NOx emissions

are considered when evaluating the rule applicability relating to ozone. Therefore, VOC and NOx emissions were evaluated pursuant to the requirements of Emission Offset, 326 IAC 2-3.

- (b) **PM_{2.5}**
Lake County (North Township) has been classified as attainment for PM_{2.5}. Therefore, direct PM_{2.5}, SO₂, and NOx emissions were reviewed pursuant to the requirements of Prevention of Significant Deterioration (PSD), 326 IAC 2-2.
- (c) **Other Criteria Pollutants**
Lake County (North Township) County has been classified as attainment or unclassifiable in Indiana for all the other criteria pollutants. Therefore, these emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2.

Fugitive Emissions

The fugitive emissions of regulated air pollutants and hazardous air pollutants (HAP) are counted toward the determination of Registration (326 IAC 2-5.1-2) applicability and source status under Section 112 of the Clean Air Act (CAA).

Greenhouse Gas (GHG) Emissions

On June 23, 2014, in the case of *Utility Air Regulatory Group v. EPA*, cause no. 12-1146, (available at http://www.supremecourt.gov/opinions/13pdf/12-1146_4q18.pdf) the United States Supreme Court ruled that the U.S. EPA does not have the authority to treat greenhouse gases (GHGs) as an air pollutant for the purpose of determining operating permit applicability or PSD Major source status. On July 24, 2014, the U.S. EPA issued a memorandum to the Regional Administrators outlining next steps in permitting decisions in light of the Supreme Court's decision. U.S. EPA's guidance states that U.S. EPA will no longer require PSD or Title V permits for sources "previously classified as 'Major' based solely on greenhouse gas emissions."

The Indiana Environmental Rules Board adopted the GHG regulations required by U.S. EPA at 326 IAC 2-2-1(zz), pursuant to Ind. Code § 13-14-9-8(h) (Section 8 rulemaking). A rule, or part of a rule, adopted under Section 8 is automatically invalidated when the corresponding federal rule, or part of the rule, is invalidated. Due to the United States Supreme Court Ruling, IDEM, OAQ cannot consider GHG emissions to determine operating permit applicability or PSD applicability to a source or modification.

Background and Description of Emission Units and Pollution Control Equipment

The Office of Air Quality (OAQ) has reviewed an application, submitted by Lakeshore Terminal Railroad LLC on May 15, 2024, relating to the operation of a new transloading operation.

The source consists of the following emission unit(s):

- (a) One liquid transloading operation, identified as EU1, approved in 2024 for construction, handling a maximum of 60,000 gal/day of liquid commodity, without control, and exhausting outside.
- (b) One diesel fuel dispensing operation (DFDS), approved in 2024 for construction, with maximum storage capacity 10,500 gallons and dispensing 3,500 gal/day or less diesel.
- (c) One (1) natural gas-fired boiler, identified as B1, approved in 2024 for construction, with a maximum heat input capacity of 5.02 MMBtu per hour, and exhausting outside.
- (d) One (1) natural gas-fired boiler, identified as B2, approved in 2024 for construction, with a maximum heat input capacity of 25.1062 MMBtu per hour, and exhausting outside.
- (e) Two (2) natural gas-fired HVAC units, approved in 2024 for construction, each with a maximum heat input capacity of 0.05 MMBtu per hour, and exhausting outside.

(f) Five (5) natural gas-fired heaters, approved in 2024 for construction, each with a maximum heat input capacity of 0.25 MMBtu per hour, and exhausting outside.

(g) Paved roads.

Enforcement Issues

There are no pending enforcement actions related to this source.

Emission Calculations

See Appendix A of this Technical Support Document for detailed emission calculations.

Permit Level Determination – Registration

This table reflects the unrestricted potential emissions of the source. If the control equipment has been determined to be integral, the table reflects the potential to emit (PTE) after consideration of the integral control device.

Unrestricted Source-Wide Emissions (ton/year)										
	PM ¹	PM ₁₀ ¹	PM _{2.5} ^{1,2}	SO ₂	NO _x	VOC	CO	Total HAPs	Single HAP ³	
Total PTE of Entire Source Including Source-Wide Fugitives	2.902 .13	2.90	2.90	0.08	13.52	10.37	11.35	9.88	9.87	methanol
Exemptions Levels	< 5	< 5	< 5	< 10	< 10	< 5/10	< 25	< 25	< 10	
Registration Levels	< 25	< 25	< 25	< 25	< 25	< 25	< 100	< 25	< 10	

¹Under the Part 70 Permit program (40 CFR 70), PM₁₀ and PM_{2.5}, not particulate matter (PM), are each considered as a "regulated air pollutant."
²PM_{2.5} listed is direct PM_{2.5}.
³Single highest source-wide HAP.

(a) The potential to emit (as defined in 326 IAC 2-1.1-1) of NO_x and VOC, each, is within the ranges listed in 326 IAC 2-5.1-2(a)(1). The potential to emit of all other regulated air pollutants are less than the ranges listed in 326 IAC 2-5.1-2(a)(1). Therefore, the source is subject to the provisions of 326 IAC 2-5.1-2 (Registrations). The source will be issued a Registration.

(b) The potential to emit (as defined in 326 IAC 2-1.1-1) of any single HAP is less than ten (10) tons per year and the potential to emit (as defined in 326 IAC 2-1.1-1) of a combination of HAPs is less than twenty-five (25) tons per year. Therefore, this source is an area source under Section 112 of the Clean Air Act (CAA) and not subject to the provisions of 326 IAC 2-7.

Federal Rule Applicability Determination

Federal rule applicability for this source has been reviewed as follows:

(a) Subpart Dc—Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units

The natural gas-fired boiler B1 is not subject to the requirements of this NSPS because this boiler

has a maximum design heat input capacity less than 10 MMBtu/hr.

The natural gas-fired boiler B2 is subject to the requirements of this NSPS because this boiler has a maximum design heat input capacity more than 10 MMBtu/hr and less than 100 MMBtu per hour.

The natural gas-fired boiler B2 is subject to the following portions of Subpart Dc.

- (1) 40 CFR 60.40c (a)
- (2) 40 CFR 60.41c
- (3) 40 CFR 60.48c (a) ~~and, (g)(1), (g)(2)~~

Commented [GU1]: The facility elects to comply with g(2).

The requirements of 40 CFR Part 60, Subpart A – General Provisions, which are incorporated as 326 IAC 12-1, apply to the natural gas-fired boiler B2 except as otherwise specified in 40 CFR 60, Subpart Dc.

- (b) Subpart XX—Standards of Performance for Bulk Gasoline Terminals

The liquid transloading operation EU1 is not subject to the requirements of this NSPS because the source does not receive gasoline by pipeline, ship or barge.

New Source Performance Standards (NSPS):

- (a) Subpart R—National Emission Standards for Gasoline Distribution Facilities (Bulk Gasoline Terminals and Pipeline Breakout Stations)

The source is not subject to the requirements of this NESHAP because this source is not a major source of HAPs.

- (b) Subpart EEEE—National Emission Standards for Hazardous Air Pollutants: Organic Liquids Distribution (Non-Gasoline)

The source is not subject to the requirements of this NESHAP because this source is not a major source of HAPs.

- (c) Subpart BBBB —National Emission Standards for Hazardous Air Pollutants for Source Category: Gasoline Distribution Bulk Terminals, Bulk Plants, and Pipeline Facilities

The source is not subject to the requirements of this NESHAP because this source does not receive gasoline by pipeline, ship or barge, or cargo tank.

- (d) Subpart CCCCC—National Emission Standards for Hazardous Air Pollutants for Source Category: Gasoline Dispensing Facilities

The diesel fuel dispensing operation is not subject to the requirements of this NESHAP because it does not dispense gasoline

- (e) Subpart JJJJJ—National Emission Standards for Hazardous Air Pollutants for Industrial, Commercial, and Institutional Boilers Area Sources

The natural gas-fired boilers B1 and B2 are considered gas-fired boilers under this NESHAP, therefore, these boilers are not subject to the requirements of this NESHAP.

The natural gas-fired HVAC units and heaters are not water heaters or process heaters; therefore, these natural gas-fired units are not subject to the requirements of this NESHAP.

- (f) There are no NESHAPs (326 IAC 14, 326 IAC 20 and 40 CFR Part 63) included in the permit.

Compliance Assurance Monitoring (CAM):

Pursuant to 40 CFR 64.2, Compliance Assurance Monitoring (CAM) is not included in the registration, because the unlimited potential to emit of the source is less than the Title V major source thresholds and the source is not required to obtain a Part 70 or Part 71 permit.

State Rule Applicability - Entire Source

State rule applicability for this source has been reviewed as follows:

326 IAC 2-5.1-2 (Registrations)

Registration applicability is discussed under the Permit Level Determination – Registration section above.

326 IAC 2-4.1 (Major Sources of Hazardous Air Pollutants (HAP))

The operation of this source will emit less than ten (10) tons per year for a single HAP and less than twenty-five (25) tons per year for a combination of HAPs. Therefore, 326 IAC 2-4.1 does not apply.

326 IAC 2-6 (Emission Reporting)

This source is not subject to 326 IAC 2-6 (Emission Reporting), because it is not required to have an operating permit pursuant to 326 IAC 2-7 (Part 70), it is located in Lake County (North Township), it does not emit NOx and VOC into the ambient air at levels equal to or greater than twenty-five (25) tons per year, and it does not emit lead into the ambient air at levels equal to or greater than 5 tons per year. Therefore, 326 IAC 2-6 does not apply.

326 IAC 5-1 (Opacity Limitations)

Pursuant to 326 IAC 5-1-2 (Opacity Limitations), except as provided in 326 IAC 5-1-3 (Temporary Alternative Opacity Limitations), opacity shall meet the following, unless otherwise stated in the registration:

- (1) Opacity shall not exceed an average of twenty percent (20%) in any one (1) six (6) minute averaging period as determined in 326 IAC 5-1-4.
- (2) Opacity shall not exceed sixty percent (60%) for more than a cumulative total of fifteen (15) minutes (sixty (60) readings as measured according to 40 CFR 60, Appendix A, Method 9 or fifteen (15) one (1) minute nonoverlapping integrated averages for a continuous opacity monitor) in a six (6) hour period.

326 IAC 6-4 (Fugitive Dust Emissions Limitations)

The source is subject to the requirements of 326 IAC 6-4, because the paved roads have the potential to emit fugitive particulate emissions. Pursuant to 326 IAC 6-4 (Fugitive Dust Emissions Limitations), the source shall not allow fugitive dust to escape beyond the property line or boundaries of the property, right-of-way, or easement on which the source is located, in a manner that would violate 326 IAC 6-4.

326 IAC 6-5 (Fugitive Particulate Matter Emission Limitations)

This source is not subject to the requirements of 326 IAC 6-5, because the source has potential fugitive particulate emissions of less than twenty-five (25) tons per year.

326 IAC 6.8 (Particulate Matter Limitations for Lake County)

This source (located in Lake County) is not one of the sources specifically listed in 326 IAC 6.8-4, 326 IAC 6.8-5, or 326 IAC 6.8-8 through 326 IAC 6.8-11. The source-wide unlimited PTE of PM is less than 10 tons per year; therefore, the source-wide actual emissions of PM are less than 10 tons per year. This source is not subject to the requirements of 326 IAC 6.8-1-2 because the source-wide PTE of PM is less than 100 tons per year and source-wide actual emissions of PM are less than 10 tons per year.

326 IAC 6.8 (Lake County: Fugitive Particulate Matter)

Pursuant to 326 IAC 6.8-10-1, this source (located in Lake County) is not subject to the requirements of 326 IAC 6.8-10 because it is not one of the sources specifically listed in 326 IAC 6.8-10-1(2)(A) through

(V) and the source-wide PTE of fugitive PM and PM10 is less than 5 tons per year, each.

326 IAC 6-2-4 (Particulate Matter Emission Limitations for Sources of Indirect Heating)

- (a) Two (2) natural gas-fired HVAC units and five (5) natural gas-fired heaters are direct-fired units. Therefore, these emission units are not subject to the requirements of this rule.
- (b) Pursuant to 326 IAC 6-2-1(d), indirect heating facilities which received permit to construct after September 21, 1983 are subject to the requirements of 326 IAC 6-2-4.

The particulate matter emissions (Pt) shall be limited by the following equation:

$$Pt = \frac{1.09}{Q^{0.26}}$$

Where:

- Pt = Pounds of particulate matter emitted per million British thermal units (lb/MMBtu).
- Q = Total source maximum operating capacity rating in MMBtu/hr heat input. The maximum operating capacity rating is defined as the maximum capacity at which the facility is operated or the nameplate capacity, whichever is specified in the facility's permit application, except when some lower capacity is contained in the facility's operation permit; in which case, the capacity specified in the operation permit shall be used.

Indirect Heating Units Which Began Operation After September 21, 1983						
Facility/Unit	Construction Date	Operating Capacity (MMBtu/hr)	Q (MMBtu/hr)	Calculated Pt (lb/MMBtu)	Particulate Limitation, (Pt) (lb/MMBtu)	PM PTE based on AP-42 (lb/MMBtu)
Natural Gas-fired Boiler B1	2024	5.02	30.1 264	0.4 54	0.4 54	0.002
Natural Gas-fired Boiler B2	2024	25.10 62	30.1 264	0.4 54	0.4 54	0.002

Where: Q = Includes the capacity (MMBtu/hr) of the new unit(s) and the capacities for those unit(s) which were in operation at the source at the time the new unit(s) was constructed.

326 IAC 6-3-2 (Particulate Emission Limitations for Manufacturing Processes)

Liquid and gaseous fuels are not considered as part of the process weight pursuant to 326 IAC 1-2-59 (Process weight; weight rate). Therefore, natural gas-fired units are not subject to the requirements of 326 IAC 6-3.

326 IAC 7-1.1 (Sulfur Dioxide Emission Limitations)

All emission units at this source have potential to emit sulfur dioxide (SO2) less than 25 tons per year or less than 10 pounds per hour. Therefore, 326 IAC 7-1.1 rule does not apply.

326 IAC 8-4-4 (Petroleum Sources: Bulk Gasoline Terminals)

This source is not subject to the requirements 326 IAC 8-4-4, because this source is not a bulk gasoline terminal.

326 IAC 8-4-6 (Petroleum Sources: Gasoline Dispensing Facilities)

This source is not subject to the requirements 326 IAC 8-4-6, because this source does not include a

gasoline dispensing facility.

326 IAC 8-1-6 (VOC Rules: General Reduction Requirements for New Facilities)

All emission units at this source have VOC potential emissions less than twenty-five (25) tons per year. Therefore, 326 IAC 8-1-6 rule does not apply.

326 IAC 9-1 (Carbon Monoxide Emission Limits)

The requirements of 326 IAC 9-1 do not apply to the source, because this source does not operate a catalyst regeneration petroleum cracking system or a petroleum fluid coker, grey iron cupola, blast furnace, basic oxygen steel furnace, or other ferrous metal smelting equipment.

326 IAC 10-3 (Nitrogen Oxide Reduction Program for Specific Source Categories)

The requirements of 326 IAC 10-3 do not apply to the source, since this source does not operate any blast furnace gas-fired boiler, a Portland cement kiln, or a facility specifically listed under 326 IAC 10-3-1(a)(2).

326 IAC 12 (New Source Performance Standards)

See Federal Rule Applicability Section of this TSD.

326 IAC 20 (Hazardous Air Pollutants)

See Federal Rule Applicability Section of this TSD.

Conclusion and Recommendation

Unless otherwise stated, information used in this review was derived from the application and additional information submitted by the applicant. An application for the purposes of this review was received on May 15, 2024.

The construction and operation of this source shall be subject to the conditions of the attached proposed Registration No. R089-47845-00732. The staff recommends to the Commissioner that the Registration be approved.

IDEM Contact

- (a) If you have any questions regarding this permit, please contact Mehul Sura, Indiana Department Environmental Management, Office of Air Quality, Permits Branch, 100 North Senate Avenue, MC 61-53 IGCN 1003, Indianapolis, Indiana 46204-2251, or by telephone at (317) 233-6868 or (800) 451-6027, and ask for Mehul Sura or (317) 233-6868.
- (b) A copy of the findings is available on the Internet at: <http://www.in.gov/ai/appfiles/idem-caats/>
- (c) For additional information about air permits and how the public and interested parties can participate, refer to the IDEM Air Permits page on the Internet at: <https://www.in.gov/idem/airpermit/public-participation/>; and the Citizens' Guide to IDEM on the Internet at: <https://www.in.gov/idem/resources/citizens-guide-to-idem/>.

**Appendix A: Emissions Calculations
Facility-wide Emissions**

Company Name: Lakeshore Terminal Railroad LLC
Source Address: 1150 East 145th Street, East Chicago, IN 46312
Permit Number: R089-47845-00732
Reviewer: Mehul Sura

Potential Emissions (tons/yr)

Process/Emission Unit	PM	PM10	PM2.5	SO2	NOx	VOC	CO	Total HAPs	Max. Single HAP
Transloading Operation	--	--	--	--	--	8.97	--	8.97	8.97
Transloading (Fugitive)	--	--	--	--	--	0.66	--	0.66	0.66
Diesel Dispensing (DFDSS)	--	--	--	--	--	<i>negligible</i>	--	--	--
Natural Gas-fired Units	0.26	1.03	1.03	0.08	13.52	0.74	11.35	0.26	0.24
Paved Roads (Fugitive)	1.88	1.88	1.88	--	--	--	--	--	--
Total (Including Fugitives):	2.13	2.90	2.90	0.08	13.52	10.37	11.35	9.88	9.62

methanol
methanol

**Appendix A: Emissions Calculations
Transloading Operation - VOC and HAP Emissions**

Company Name: Lakeshore Terminal Railroad LLC
Source Address: 1150 East 145th Street, East Chicago, IN 46312
Permit Number: R089-47845-00732
Reviewer: Mehul Sura

Parameters:

Maximum Throughput = 60,000 gal/day
 Maximum Annual Operating days = 365 days/yr

Loading Loss calculations based on AP-42, Chapter 5.2 Transportation And Marketing Of Petroleum Liquids

$$LL = 12.46 * SPM/T$$

where:

LL = loading loss (lb/10³ gal)

S = saturation factor (from AP-42 Table 5.2-1)

P = true vapor pressure (psia)

M = molecular weight of vapors

T = temperature of liquid (°R)

Worst Case Loading (Methanol)

S = 0.6

P = 1.780 psia

M = 32.0 lb/lb-mole

T = 520 R

LL = 0.82 lb/Kgal

Maximum Throughput = 60,000 gal/day

Potential VOC/Single HAP/Combined HAPS Emissions = 8.97 TONS/YR

Notes:

Potential VOC/Single HAP/Combined HAPS Emissions = Loading Loss LL (lb/Kgal) x Maximum Throughput (gal/day) x Maximum Annual Operating days (days/yr) x1/2000 (ton/lb)

The throughput information was provided by the facility. Maximum throughput is based on a worst-case assumption of transloading ten (10) 6,000-gallon tank truck loads of liquid per day. Expected throughput is based on transloading four (4) 6,000-gallon truck loads of liquid per day.

For a worst-case estimate, it was assumed that all the material transloaded is methanol. This was based on the loading loss parameters for the materials transloaded in Q1 of the 2024 calendar year (see following pages) by Lakeshore Railcar & Tanker Services LLC. Methanol is 100% HAP.

Appendix A: Emissions Calculations

Company Name: Lakeshore Terminal Railroad LLC
Source Address: 1169 East 148th Street, East Chicago, IN 46312
Permit Number: R089-47845-00732
Reviewer: Mehul Sura

2024 Q1 Transloading

Main data table with columns: Month/Date, Permit Substance Name, Permit Substance Category, CAS Number, VOC (Yes/No), HAPs (Yes/No), Volume Loaded Per Day (Kgal/day), Number of Cars (cars/day), Loading Loss Factor (lbs/Kgal), VOC Content (wt.%), HAPs Content (wt.%), VOC Emissions (lbs/day), HAPs Emissions (lbs/day), Other Emissions (lbs/day), Saturation Factor, S (No unit), True Vapor Pressure, P (psia), Vapor Molecular Weight, MW (lb/lb mole), worst case S*P*MW, Bulk Liquid Temperature, T (°R). Includes monthly totals for January, February, and March 2024.

Footnotes:

- 1. The operation date, substance name, and transloading volume loaded were based on the monthly transload worksheets provided by the facility for January, February, and March of 2024.
2. The loading loss factor (L) (lbs/gal) was calculated based on the saturation factor (S) from AP-42 Table 5.2-1, true vapor pressure (P) in psia, molecular weight of vapors (MW), bulk liquid temperature of 520 R using the following equation from AP-42 Section 5.2.1:
Equation (1): L = 12.46 S x P x MW / T

**Appendix A: Emissions Calculations
Transloading Operation - Fugitive Emissions**

Company Name: Lakeshore Terminal Railroad LLC
Source Address: 1150 East 145th Street, East Chicago, IN 46312
Permit Number: R089-47845-00732
Reviewer: Mehul Sura

Parameters:

Equipment Type ¹	Maximum No. of Units per Hour ¹	Emission Factor (kg/hr per source) ²	VOC Fraction ⁶
Valves	0	0.00403	1.0
Pump Seals	0	0.0199	1.0
Compressor Seals	0	0.228	1.0
Pressure Relief Valves	0.63	0.104	1.0
Connectors	1.67	0.00183	1.0
Open-ended Lines	0	0.0017	1.0
Sampling Connections	0	0.015	1.0

Maximum Annual Operating Hours ³ = 8,760 hrs/yr
Expected Actual Annual Operating Hours ⁴ = 4,160 hrs/yr
Conversion = 2.20462 lbs/kg

Calculations: ⁵

$$E_{\text{TOC}} = F_A \times WF_{\text{TOC}} \times N$$

Worst Case Loading

E_{TOC} = Emission rate of VOC from all equipment in the stream of a given equipment type (kg/hr).

F_A = Applicable average emission factor for the equipment type (kg/hr per source).

WF_{TOC} ⁶ = Average weight fraction of VOC in the stream.

N = Number of pieces of the applicable equipment in the stream.

Emissions:

Pollutant	Potential Emissions		Actual Emissions	
	(lbs/hr)	(TPY)	(lbs/hr)	(TPY)
VOC	0.15	0.66	0.15	0.31
Max. Single HAP ⁶	0.15	0.66	0.15	0.31
Total HAPs ⁶	0.15	0.66	0.15	0.31

Notes:

- The maximum number of units per hour assumes a worse-case estimate of transloading ten (10) 6,000-gallon tank truck loads of liquid per day, one (1) pressure relief valve per transloading vessel [conservatively assuming a maximum of 15 transloading vessels are involved per day], four (4) connectors per transloading event, 365 days of transloading per year, and 8,760 operating hrs/yr.
- The emission factors were taken from the EPA's Emission Inventory Improvement Program (EIIP), Volume II, Chapter 4 - *Preferred and Alternative Methods for Estimating Fugitive Emission from Equipment Leaks*, Table 4.5-1 - *SOCMI Average Emission Factors*.
- The maximum annual operating hours are assumed to be 8,760 operating hrs/yr.
- The expected actual annual operating hours are assumed to be 4,160 operating hrs/yr based on 16 operating hours per day, 5 operating days per week, and 52 operating weeks per year.
- The VOC emissions were calculated based on the EIIP, Volume II, Chapter 4 - *Preferred and Alternative Methods for Estimating Fugitive Emission from Equipment Leaks*, Equation 4.5-1.
- For a worst-case estimate, it was assumed that all the material transloaded is methanol. This was based on the loading loss parameters for the materials transloaded in Q1 of the 2024 calendar year (see previous pages) by Lakeshore Railcar & Tanker Services LLC. Methanol is 100% VOC and 100% HAP.

Appendix A: Emissions Calculations
Natural Gas Combustion (≤ 100 MMBtu/hr)

Company Name: Lakeshore Terminal Railroad LLC
Source Address: 1150 East 145th Street, East Chicago, IN 46312
Permit Number: R089-47845-00732
Reviewer: Mehul Sura

	Heat Input Capacity MMBtu/hr	HHV mmBtu mmscf	Potential Throughput MMCF/yr
boiler B1	5.02		
boiler B2	25.106		
Two (2) natural gas-fired HVAC units	0.1		
Five (5) natural gas-fired heater	1.25		
	31.48	1020	270.3

Emission Factor in lb/MMCF	Pollutant						
	PM*	PM10*	direct PM2.5*	SO2	NOx	VOC	CO
	1.9	7.6	7.6	0.6	100	5.5	84
Total Potential Emission in tons/yr	0.26	1.03	1.03	0.08	**see below	0.74	11.35

*PM emission factor is filterable PM only. PM10 emission factor is filterable and condensable PM10 combined.

PM2.5 emission factor is filterable and condensable PM2.5 combined.

**Emission Factors for NOx: Uncontrolled = Worst Case Loading

Methodology

All emission factors are based on normal firing.

MMBtu = 1,000,000 Btu; MMCF = 1,000,000 Cubic Feet of Gas

Emission Factors are from AP 42, Chapter 1.4, Tables 1.4-1, 1.4-2, 1.4-3, SCC #1-02-006-02, 1-01-006-02, 1-03-006-02, and 1-03-006-03

Potential Throughput (MMCF) = Heat Input Capacity (MMBtu/hr) x 8,760 hrs/yr x 1 MMCF/1,020 MMBtu

Potential Emission (tons/yr) = Potential Throughput (MMCF/yr) x Emission Factor (lb/MMCF)/2,000 lb/ton

Hazardous Air Pollutants (HAPs)

	HAPs - Organics				
	Benzene	Dichlorobenzene	Formaldehyde	Hexane	Toluene
Emission Factor in lb/MMcf	2.1E-03	1.2E-03	7.5E-02	1.8E+00	3.4E-03
Total Potential Emission in tons/yr	2.8E-04	1.6E-04	1.0E-02	2.4E-01	4.6E-04

	HAPs - Metals				
	Lead	Cadmium	Chromium	Manganese	Nickel
Emission Factor in lb/MMcf	5.0E-04	1.1E-03	1.4E-03	3.8E-04	2.1E-03
Total Potential Emission in tons/yr	6.8E-05	1.5E-04	1.9E-04	5.1E-05	2.8E-04

Potential Emission of Combined HAPs (tons/yr)	2.6E-01
Potential Emission of Highest Single HAP (tons/yr)	2.4E-01

Hexane

Methodology

Methodology is the same as above.

The five highest organic and metal HAPs emission factors are provided above.

Additional HAPs emission factors are available in AP-42, Chapter 1.4.

Appendix A: Emissions Calculations
Diesel Dispensing DFD5S - VOC Emissions

Company Name: Lakeshore Terminal Railroad LLC
Source Address: 1150 East 145th Street, East Chicago, IN 46312
Permit Number: R089-47845-00732
Reviewer: Mehul Sura

Parameters:

Annual Operating Hours = 8,760 hr/yr

Emissions:

Emission Unit	Max. Throughput ¹	VOC Emissions ^{2,3}	VOC Emissions	
	(gal/yr)	(lb/yr)	(lb/hr)	(tons/yr)
10,500-gallon Diesel Dispensing	1,277,500	22.57	2.6E-03	0.01

Footnotes:

2. Working loss VOC emissions were estimated using the EIIP Equation for Material Loss (Volume II, Chapter 8, Equation 8.4-1).
3. Breathing loss VOC emissions were estimated using AP-42, Chapter 7.1, Equation 1-2. Tank dimensions were approximated.

**Appendix A: Emissions Calculations
Paved Roads - PM Emissions**

Company Name: Lakeshore Terminal Railroad LLC
 Source Address: 1150 East 145th Street, East Chicago, IN 46312
 Permit Number: R089-47845-00732
 Reviewer: Mehul Sura

Paved Roads at Industrial Site:

The following calculations determine the amount of emissions created by paved roads, based on AP-42, Ch 13.2.1 (1/2011).

Vehicle Information (provided by the Facility):

Type	Maximum number of vehicles per day	Number of one-way trips per day per vehicle	Maximum trips per day (trip/day)	Maximum Weight Loaded (tons/trip)	Total Weight driven per day (ton/day)	Maximum one-way distance (feet/trip)	Maximum one-way distance (miles/trip)	Maximum one-way miles (miles/day)	Maximum one-way miles (miles/yr)
Truck Tankers (enter empty)	5.0	1.0	5.0	17	85	1300	0.246	1.2	449.3
Truck Tankers (leave full)	5.0	1.0	5.0	40	200	1300	0.246	1.2	449.3
Truck Tankers (enter full)	5.0	1.0	5.0	40	200	1300	0.246	1.2	449.3
Truck Tankers (leave empty)	5.0	1.0	5.0	17	85	1300	0.246	1.2	449.3
Light Duty Vehicles (enter with driver)	5.0	1.0	5.0	2.4	12	650	0.123	0.6	224.7
Light Duty Vehicles (leave with driver)	5.0	1.0	5.0	2.4	12	650	0.123	0.6	224.7
Totals			30.0		594			6.2	2,247

Average Vehicle Weight Per Trip = 19.8 tons/trip
 Average Miles Per Trip = 0.21 miles/trip

Unmitigated Emission Factor, $E_f = [k * (sL)^{0.91} * (W)^{1.02}]$ (Equation 1 from AP-42 **Worst Case Loading**)

	PM	PM10	PM2.5	
where k =	0.011	0.0022	0.00054	lb/VMT = particle size multiplier (AP-42 Table 13.2.1-1)
W =	19.8	19.8	19.8	tons = average vehicle weight (provided by source)
sL =	9.7	9.7	9.7	g/m ² = silt loading value for paved roads for Steel and Iron Production - Table 13.2.1-3)

Taking natural mitigation due to precipitation into consideration, Mitigated Emission Factor, $E_{ext} = E_f * [1 - (p/4N)]$ (Equation 2 from AP-42 13.2.1)

Mitigated Emission Factor, $E_{ext} = E_f * [1 - (p/4N)]$
 where p = 125 days of rain greater than or equal to 0.01 inches (see Fig. 13.2.1-2)
 N = 365 days per year

	PM	PM10	PM2.5	
Unmitigated Emission Factor, $E_f =$	1.828	0.366	0.0897	lb/mile
Mitigated Emission Factor, $E_{ext} =$	1.671	0.334	0.0821	lb/mile
Dust Control Efficiency =	0.0%	0.0%	0.0%	

Process	Unmitigated PM Emissions (tons/yr)	Unmitigated PM10 Emissions (tons/yr)	Unmitigated PM2.5 Emissions (tons/yr)	Mitigated PM Emissions (tons/yr)	Mitigated PM10 Emissions (tons/yr)	Mitigated PM2.5 Emissions (tons/yr)	Actual PM Emissions (tons/yr)	Actual PM10 Emissions (tons/yr)	Actual PM2.5 Emissions (tons/yr)
Truck Tankers (enter empty)	0.41	0.08	0.02	0.38	0.08	0.02	0.38	0.08	0.02
Truck Tankers (leave full)	0.41	0.08	0.02	0.38	0.08	0.02	0.38	0.08	0.02
Truck Tankers (enter full)	0.41	0.08	0.02	0.38	0.08	0.02	0.38	0.08	0.02
Truck Tankers (leave empty)	0.41	0.08	0.02	0.38	0.08	0.02	0.38	0.08	0.02
Light Duty Vehicles (enter with driver)	0.21	0.04	0.01	0.19	0.04	0.01	0.19	0.04	0.01
Light Duty Vehicles (leave with driver)	0.21	0.04	0.01	0.19	0.04	0.01	0.19	0.04	0.01
Total (tons/yr)	2.05	0.41	0.10	1.88	0.38	0.09	1.88	0.38	0.09
Total (lbs/hr)	0.47	0.09	0.02	0.43	0.09	0.02	0.43	0.09	0.02

Methodology:

Total Weight driven per day (ton/day) = [Maximum Weight Loaded (tons/trip)] * [Maximum trips per day (trip/day)]
 Maximum one-way distance (mi/trip) = [Maximum one-way distance (feet/trip) / 5280 ft/mile]
 Maximum one-way miles (miles/day) = [Maximum trips per year (trip/day)] * [Maximum one-way distance (mi/trip)]
 Average Vehicle Weight Per Trip (ton/trip) = SUM[Total Weight driven per day (ton/day)] / SUM[Maximum trips per day (trip/day)]
 Average Miles Per Trip (miles/trip) = SUM[Maximum one-way miles (miles/day)] / SUM[Maximum trips per year (trip/day)]
 Unmitigated PTE (tons/yr) = [Maximum one-way miles (miles/yr)] * [Unmitigated Emission Factor (lb/mile)] * (ton/2000 lbs)
 Mitigated PTE (tons/yr) = [Maximum one-way miles (miles/yr)] * [Mitigated Emission Factor (lb/mile)] * (ton/2000 lbs)
 Controlled PTE (tons/yr) = [Mitigated PTE (tons/yr)] * [1 - Dust Control Efficiency]

From: [Uhlir, Grayson](#)
To: [SURA, MEHUL](#)
Subject: RE: Applicant Review for Registration No. R089-47845-00732 for Lakeshore Terminal Railroad LLC
Date: Wednesday, June 19, 2024 9:35:55 AM
Attachments: [image001.png](#)
[image002.png](#)
[image003.png](#)
[image590671.png](#)
[image942044.png](#)
[image758723.png](#)

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Great, thank you for confirming.

Best,
Grayson

Grayson Uhlir
Project Engineer

 **Weaver Consultants Group**

35 E. Wacker Drive | Suite 1250

Chicago, IL 60601

O: 312-922-1030 | F: 312-922-0201 | M: 708-870-0622

guhli@wcgrp.com | www.wcgrp.com 



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From: SURA, MEHUL <MSURA@idem.IN.gov>
Sent: Wednesday, June 19, 2024 8:09 AM
To: Uhlir, Grayson <guhli@wcgrp.com>
Subject: RE: Applicant Review for Registration No. R089-47845-00732 for Lakeshore Terminal Railroad LLC

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Your comments will be reviewed before the permit is issued. Thanks

From: Uhlir, Grayson <guhli@wcgrp.com>

Sent: Thursday, June 13, 2024 2:59 PM

To: SURA, MEHUL <MSURA@idem.IN.gov>

Subject: RE: Applicant Review for Registration No. R089-47845-00732 for Lakeshore Terminal Railroad LLC

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Hi Mehul,

I see that you are out of the office, but I just want to make sure that our comments will be reviewed before the permit is issued as they were provided prior to June 13, 2024 – please confirm.

Thanks!
Grayson

Grayson Uhlir
Project Engineer

W Weaver Consultants Group

35 E. Wacker Drive | Suite 1250

Chicago, IL 60601

O: [312-922-1030](tel:312-922-1030) | F: [312-922-0201](tel:312-922-0201) | M: [708-870-0622](tel:708-870-0622)

guhli@wcgrp.com | www.wcgrp.com 



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From: Uhlir, Grayson

Sent: Wednesday, June 12, 2024 3:12 PM

To: SURA, MEHUL <MSURA@idem.IN.gov>

Subject: RE: Applicant Review for Registration No. R089-47845-00732 for Lakeshore Terminal Railroad LLC

Mehul,

Thank you very much! Please find attached the draft Registration and supporting documentation with our comments/revisions – please let us know if you have any questions.

Sincerely,
Grayson

From: SURA, MEHUL <MSURA@idem.IN.gov>
Sent: Friday, June 7, 2024 11:48 AM
To: Uhlir, Grayson <guhli@wcgrp.com>
Subject: Applicant Review for Registration No. R089-47845-00732 for Lakeshore Terminal Railroad LLC

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Good afternoon,

Attached please find the draft Registration and supporting documents for review. As a courtesy, this draft is being provided to you for an opportunity to review and provide comments prior to the issuance of the permit approval.

The time clock for Registration permit No.: R089-47845-00732 will be stopped during your review until you either provide comments or indicate that you do not have any comments. Due to permit accountability and IDEM's intention to issue the permit in a timely manner, you are being allotted 7 days to provide comments in writing. If you have any conflicts or special circumstances that would impede your review process during the time allotted, please notify me directly at the email address or phone number listed below as soon as possible. If you have not responded on or before June 13, 2024, IDEM will assume that you have no comments pertaining to this draft and all files will be forwarded for issuance.

During this review period, I will be available to address your concerns, answer any questions that you may have, or make necessary revisions to this draft.

Pursuant to 326 IAC 2-1.1-7, the fee for this permitting action is expected to be \$1100, which is based on the following:

\$500	Each NSPS Review: \$500 (Subparts Dc)
\$600	Registration (New Source Subject to 326 IAC 2-5.5)

Please note: This is not a bill. This represents the anticipated fee and is subject to change if additional review is required or the permit level changes for some reason (e.g. an additional NESHAP review is required). You will receive a final bill from the OAQ Permits Administration and Support Section.

Sincerely,

Mehul Sura
IDEM, OAQ, Air Permit Writer
Phone: 317-233-6868