

**From:** [Kahn, Ryan](#)  
**To:** [MCQUIGG, DONALD](#)  
**Subject:** RE: IDEM OAQ Contact Information for Application No. 167-47886-00002 for CF Industries Distribution Facilities, LLC - Terre Haute Terminal  
**Date:** Wednesday, June 5, 2024 9:55:24 AM  
**Attachments:** [image004.png](#)  
[image005.png](#)  
[image007.png](#)  
[image009.png](#)  
[image010.png](#)  
[Terre Haute Flare Emissions Calculations.xlsx](#)  
[CFI2201-EDS-350-001 Pilot Data Sheet - Rev 1 \(1\).pdf](#)

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Good morning Donald,

Thank you very much for reaching out, I look forward to working with you! I am free anytime tomorrow after 11:30am, or anytime Friday before 11am.

I have also put together this attached spreadsheet based on the two pilot data sheets we were provided by our vendor (also attached). I hope that this can help with some initial questions that you may have.

Finally, we are more than happy to receive electronic copies.

Warm Regards, and I look forward to our phone discussion.

Ryan Kahn



**Ryan Kahn**

*Superintendent, Environmental Engineering*

Cell: 1.224.279.4960

[Ryan.Kahn@cfindustries.com](mailto:Ryan.Kahn@cfindustries.com)

2375 Waterview Drive | Northbrook, Illinois 60062



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**From:** MCQUIGG, DONALD <DMCQUIGG@idem.IN.gov>

**Sent:** Wednesday, June 5, 2024 8:16 AM

**To:** Kahn, Ryan <ryan.kahn@cfindustries.com>

**Cc:** MCQUIGG, DONALD <DMCQUIGG@idem.IN.gov>

**Subject:** [EXTERNAL] IDEM OAQ Contact Information for Application No. 167-47886-00002 for CF Industries Distribution Facilities, LLC - Terre Haute Terminal

Dear Ryan Kahn,

I am the permit writer assigned to the current application No. 167-47886-00002 for CF Industries Distribution Facilities, LLC - Terre Haute Terminal. I would like to extend to you my contact information so that we may have continuous 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.

**Based on my preliminary review of the application, I would like to have a phone discussion regarding calculating the increased emissions for the flare modification. Please let me know what day and time this week is best for you.**

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 CF Industries Distribution Facilities, LLC - Terre Haute Terminal 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.

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

Sincerely,



**Donald McQuigg**

Environmental Manager  
Office of Air Quality, Permits Branch  
Indiana Department of Environmental Management

(317) 234-4240 • [dmcquigg@idem.IN.gov](mailto:dmcquigg@idem.IN.gov)

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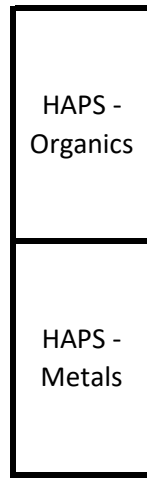
CF Industries  
 Terre Haute Terminal  
 Flare Emissions Calculations

# Pilots (new)	2
Natural Gas Design Flow, SCFH	50
Total Natural Gas Usage, SCFH	100
Total Natural Gas Usage, SCF/year	876000

EPA Emission Factors (AP 42 Chapter 1.4)

Source: <https://www3.epa.gov/ttnchie1/ap42/ch01/final/c01s04.pdf>

Pollutant	Emission Factor (lb/10 <sup>6</sup> scf)
CO2	120000
Lead	0.0005
N2O	2.2
PM (total)	7.6
PM (condensable)	5.7
PM (filterable)	1.9
SO2	0.6
TOC	11
Methane	2.3
VOC	5.5
Benzene	0.0021
Dichlorobenzene	0.0012
Formaldehyde	0.075
Hexane	1.8
Toluene	0.0034
Total - Organics	-
Lead	0.0005
Cadmium	0.0011
Chromium	0.0014
Manganese	0.00038
Nickel	0.0021
Total - Metals	-



\*the five hi

New Flare Potential Emissions	lbs/year	tons/year
CO2	1.05E+05	5.26E+01
Lead	4.38E-04	2.19E-07
N2O	1.93E+00	9.64E-04
PM (total)	6.66E+00	3.33E-03
PM (condensable)	4.99E+00	2.50E-03
PM (filterable)	1.66E+00	8.32E-04
SO2	5.26E-01	2.63E-04
TOC	9.64E+00	4.82E-03
Methane	2.01E+00	1.01E-03
VOC	4.82E+00	2.41E-03
Benzene	1.84E-03	9.20E-07
Dichlorobenzene	1.05E-03	5.26E-07
Formaldehyde	6.57E-02	3.29E-05
Hexane	1.58E+00	7.88E-04
Toluene	2.98E-03	1.49E-06
Total - Organics	1.65E+00	8.24E-04
Lead	4.38E-04	2.19E-07
Cadmium	9.64E-04	4.82E-07
Chromium	1.23E-03	6.13E-07
Manganese	3.33E-04	1.66E-07
Nickel	1.84E-03	9.20E-07
Total - Metals	4.80E-03	2.40E-06

ghest organic and metal HAPs emission factors are provided above, additional HAPs emission factors are a

available in AP-42 Chapter 1.4



Pilot Assembly



Client:	CF Industries	Rev	Desc	Date	By	Chkd	Equip Tag(s):	-
Location:	See Note 1	1	IFU	10/13/2023	RKA	RLH	Document No.:	CFI2201-EDS-350-001
Project Name:	Flare Replacement						Qty Req:	Thirty-two (32) Pilots, Ten (10) Retrofits
Project No:	CFI2201							

1	<b>GENERAL INFORMATION</b>							
2	Manufacturer	John Zink Hamworthy			Model	WindPROOF ZEUS		
3	Service	Ammonia Flare			Location	Outside		
4	<b>DESIGN INFORMATION</b>							
5	Heat Release, BTU/hr	50,000			Wind Resistance, mph	> 145		
6	Number of Thermocouples, ea	One (1)			Rain Resistance, in/hr	> 30		
7	Thermocouple Type	K			Overall Length	8' - 9 1/4"		
8	Natural Gas Design Flow, SCFH	50			Weight, lb	70		
9	Natural Gas Pressure Range, psig	10						
10	<b>MATERIALS OF CONSTRUCTION</b>							
11	Pilot Tip Assembly	310 SS			Lower Bracket	310 SS		
12	Fuel Line	310 SS			Mixer	316 SS		
13	Ignition Line	310 SS			Strainer	316 SS		
14	Upper Bracket	310 SS						
15	<b>ADDITIONAL REQUIREMENTS</b>							
16	Windproof, Y/N	Yes			Zeus Electronic Tip Ignition, Y/N	Yes		
17	Anti-hoar Frost Heaters, Y/N	Yes						
18	<b>NOZZLES</b>							
19	<b>ITEM</b>	<b>QTY</b>	<b>SIZE</b>	<b>SERVICE</b>	<b>Location</b>	<b>Class</b>	<b>Type</b>	<b>NOTES</b>
20	1	1	1"	Pilot Gas Inlet	See Vendor Dwg.	--	Plain End	
21	2	1	1"	Ignition Inlet	See Vendor Dwg.	150#	Capped	
22	3	1	3/4"	Spark Ignition Probe (Zeus)	See Vendor Dwg.	N/A	NPTF	
23	4	1	3/4"	Thermocouple Connection	See Vendor Dwg.	N/A	NPTF	
24								
25	<b>NOTES</b>							
26	Items marked with an "*" are to be provided by vendor.							
27	1	See CFI2201-SCOPE-350-001 for specific terminal locations to ship the pilot assemblies to. The document identifies for each location whether complete pilot assemblies with junction boxes and control panel are required or retrofit assemblies with thermocouples only.						
28	2	Vendor to break-up the price by terminal and include shipping costs to each terminal.						
29	3	Please provide one additional pilot as an option for the Terre Haute & Pine Bend terminals as requested in CFI2201-SCOPE-350-001.						
30	4	For the new pilot assemblies, the pilot's body does not need to be an overall length of 16', and the inlets, pilot air mixer, and TC GUAC do not need to be moved to the bottom. The most recently purchased pilot assemblies by CF Industries can be provided with 16' of thermocouple to the vendor provided junction box.						
31	5	The thermocouple sheath diameter shall be 5/16", and the sheath's material shall be 310 SS to provide protection at 1,600°F for at least 20 minutes.						
32								
33								
34								
35								
36								
37								
38								

**From:** [Kahn, Ryan](#)  
**To:** [MCQUIGG, DONALD](#)  
**Subject:** Re: Applicant Review for MSOP Administrative Amendment No. 167 47886 00002 for CF Industries Distribution Facilities, LLC - Terre Haute Terminal  
**Date:** Tuesday, June 25, 2024 10:53:05 AM  
**Attachments:** [image008.png](#)  
[image009.png](#)  
[image010.png](#)  
[image011.png](#)  
[image013.png](#)

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Donald,

Sounds great! It will be on-site just for the one week and then it'll be in our offsite storage location.

We likely will not make an amendment until the next permit renewal if it doesn't impact the permit levels.

Happy to proceed as is, feel free to send this to your Section Chief for next steps without our review.

Thank you again for everything!

Ryan

**Ryan Kahn**

*Superintendent, Environmental Engineering*

Cell: 1.224.279.4960

[Ryan.Kahn@cfindustries.com](mailto:Ryan.Kahn@cfindustries.com)

2375 Waterview Drive | Northbrook, Illinois 60062

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**From:** MCQUIGG, DONALD <DMCQUIGG@idem.IN.gov>

**Sent:** Tuesday, June 25, 2024 7:45:05 AM

**To:** Kahn, Ryan <ryan.kahn@cfindustries.com>

**Cc:** MCQUIGG, DONALD <DMCQUIGG@idem.IN.gov>

**Subject:** [EXTERNAL] RE: Applicant Review for MSOP Administrative Amendment No. 167 47886 00002 for CF Industries Distribution Facilities, LLC - Terre Haute Terminal

Hi Ryan,

We will add the temporary flare and combustion emissions to your permit. The temporary flare can be removed from the permit after the flare upgrade project is done at your convenience by an Administrative Amendment or removed in another project permit action. This does not impact your permit level. I just need to show the addition of this unit in the calcs, TSD, and permit.

I should be able to finish updating the permit documents today. Since you are on travel, do you want to see the permit documents again? Let me know so I can move this along to my Section Chief for issuance approval.

Sincerely,



Donald McQuigg  
Environmental Manager  
Office of Air Quality, Permits Branch  
Indiana Department of Environmental Management

(317) 234-4240 • [dmcquigg@idem.IN.gov](mailto:dmcquigg@idem.IN.gov)

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**From:** Kahn, Ryan <[ryan.kahn@cfindustries.com](mailto:ryan.kahn@cfindustries.com)>  
**Sent:** Monday, June 24, 2024 11:27 PM  
**To:** MCQUIGG, DONALD <[DMCQUIGG@idem.IN.gov](mailto:DMCQUIGG@idem.IN.gov)>  
**Cc:** Howard, Kenneth <[kennith.howard@cfindustries.com](mailto:kennith.howard@cfindustries.com)>; Lichtenberger, Nathaniel <[NLichtenberger@cfindustries.com](mailto:NLichtenberger@cfindustries.com)>; Pervaiz, Muhammad <[muhammad.pervaiz@cfindustries.com](mailto:muhammad.pervaiz@cfindustries.com)>  
**Subject:** RE: Applicant Review for MSOP Administrative Amendment No. 167 47886 00002 for CF Industries Distribution Facilities, LLC - Terre Haute Terminal

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Good evening Donald,

After discussing with my operations team, our only comment is related to the temporary flare. We did not include emissions from the temporary flare in this amendment, which includes propane combustion for a maximum of one week.

Please let me know if this would require any further support on our behalf.

Warm Regards,  
Ryan





**Ryan Kahn**

*Superintendent, Environmental Engineering*

Cell: 1.224.279.4960

[Ryan.Kahn@cfindustries.com](mailto:Ryan.Kahn@cfindustries.com)

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**From:** Kahn, Ryan

**Sent:** Friday, June 21, 2024 11:14 AM

**To:** 'MCQUIGG, DONALD' <[DMCQUIGG@idem.IN.gov](mailto:DMCQUIGG@idem.IN.gov)>

**Subject:** RE: Applicant Review for MSOP Administrative Amendment No. 167 47886 00002 for CF Industries Distribution Facilities, LLC - Terre Haute Terminal

Good morning Donald,

After talking with my operations team, I learned that while we are making this physical change to the flare, we would want to have a backup system in case of an overpressure/overheat/relief valves/etc. We will plan to shut off the flow to our existing flare and reroute this flow to a portable flare that we will have onsite for the duration of this project. This portable flare will have pilots that are running off of a portable propane tank, and will combust any ammonia that was planning to be flared anyways (typically this is only the case for relief valves that would vent to the atmosphere, which are instead redirected to our flare rather than the atmosphere.

Do you think that we should include the temporary emissions from the propane combustion from this portable flare for the ~1 week that this project is underway?

Thank you very much,

Ryan



**Ryan Kahn**

*Superintendent, Environmental Engineering*

Cell: 1.224.279.4960

[Ryan.Kahn@cfindustries.com](mailto:Ryan.Kahn@cfindustries.com)

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**From:** MCQUIGG, DONALD <[DMCQUIGG@idem.IN.gov](mailto:DMCQUIGG@idem.IN.gov)>  
**Sent:** Thursday, June 20, 2024 4:45 PM  
**To:** Kahn, Ryan <[ryan.kahn@cfindustries.com](mailto:ryan.kahn@cfindustries.com)>  
**Cc:** MCQUIGG, DONALD <[DMCQUIGG@idem.IN.gov](mailto:DMCQUIGG@idem.IN.gov)>  
**Subject:** [EXTERNAL] Applicant Review for MSOP Administrative Amendment No. 167 47886 00002 for CF Industries Distribution Facilities, LLC - Terre Haute Terminal

Dear Ryan Kahn:

Attached please find the draft MSOP Administrative Amendment 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 MSOP Administrative Amendment permit No.: 167-47886-00002 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 One (1) week 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 27, 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 \$0, which is based on the following:

\$0	MSOP Administrative Amendment
-----	-------------------------------

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,

**BILLING WORKSHEET**  
**MSOP, Registration, Exemptions**

For Applications Received On and After October 1, 2019

Permit #: 167-47886-00002  
 Permit Reviewer: Donald McQuigg  
 Application Received Date: 28-May-24

Instructions: Permit Reviewers will fill out yellow-highlighted cells (as necessary) and check the appropriate box or fill in the number of reviews. The total fee will be calculated at the bottom and transferred to the billing amount on the first page. Permit Reviewers will change the bottom worksheet tab color to yellow to indicate the permit billing worksheet that was filled out. PASS staff will fill out the green-highlighted cells (as necessary).

*Note: See "Transition scenarios - permits and fees" document located in SharePoint for more information on handling transition permits and associated fees.*

<b>MSOP Fees</b>			
<input type="checkbox"/>		\$100	MSOP
<input type="checkbox"/>		\$600	MSOP w/NSR (120)*
<input type="checkbox"/>		\$3,500	MSOP w/NSR (120)*
<input type="checkbox"/>		\$600	MSOP Min Permit Revision (45)
<input type="checkbox"/>		\$100	MSOP Renewal
<input type="checkbox"/>		\$600	MSOP Renewal / Minor NSR (120)*
<input type="checkbox"/>		\$3,500	MSOP Renewal / Sig NSR (120)*
<input type="checkbox"/>		\$3,500	MSOP NSC (Minor PSD/EO) (120)
<input type="checkbox"/>		\$6,000	MSOP NSC (Major PSD/EO) (270)
<input type="checkbox"/>		\$3,500	MSOP SPR (Minor PSD/EO) (120)
<input type="checkbox"/>		\$6,000	MSOP SPR (Major PSD/EO) (270)
<input type="checkbox"/>		\$100	MSOP Relocation

\* Bill \$600 when the permit includes a modification (new or modified equipment) at MPR levels. Bill \$3500 when the permit includes a modification (new or modified equipment) at SPR levels.

<b>Registration Fees</b>			
<input type="checkbox"/>		\$600	Registration – (New Source subject to 326 IAC 2-5.1-2)
<input type="checkbox"/>		\$100	Registration Relocation
<input type="checkbox"/>		\$600	Registration Revision and Re-Registration – (Existing Sources subject to 326 IAC 2-5.5)

<b>Exemption Fees</b>			
<input type="checkbox"/>		\$100	Exemption

<b>NSPS / NESHAP / 326 IAC 8-1-6 BACT / 326 IAC 2-4.1 MACT Review</b>			
Number of Reviews	Total Fee	Fee	See "NSPS-NESHAP-BACT Billing Info" document for instructions.
		\$500	for each review for an applicable NSPS
		\$500	for each review for an applicable NESHAP
		\$600	times each 326 IAC 8-1-6 BACT and each 326 IAC 2-4.1 MACT

*For each best available control technology (BACT) analysis for VOC under 326 IAC 8-1-6 and for each maximum achievable control technology (MACT) under 326 IAC 2-4.1. [326 IAC 2-1.1-7(m)(5)]*

<b>Other Fees</b>			
<input type="checkbox"/>		\$500	Interim – Any type
<input type="checkbox"/>		\$500	Public Hearing

     \$0 Total Applicable Fee

### OAQ Permits Branch Invoice Worksheet

Instructions: Permit Reviewers will fill out yellow-highlighted cells (as necessary). Permit Reviewers will change the bottom worksheet tab color to yellow to indicate the permit billing worksheet that was filled out. PASS staff will fill out the green-highlighted cells (as necessary).

Source Name: CF Industries Distribution Facilities, LLC - Terre H

TEMPO AI: 10806

Permit #: 167-47886-00002

CST #:

Credit for permit fees: \$

Credit Received Date:

**Note:** IDEM's accounting office requires that fee bills or refunds, be sent to the accounts Department at the billing address listed on application. If a courtesy copy is needed, please indicate at the bottom of this page.

**Permit Reviewer please indicate applicable fees on page #2. Total will carry over to this page.**

Total Due: \$ \$0

Total Credit: \$ \$0

**Total Permitting Fees Applicable:** \$ \$0

**Total Refund Due:** \$

Reason for Refund:

**Adjustments to Applicable Fees:** \$

Explanation of adjustments:

**A courtesy copy of the billing has been requested by the applicant, please send to:**

Name/Title:

Address:

Permit Reviewer:

Date: