

**GXO**

135 S Mount Zion Rd  
Lebanon, IN 46052 USA

011-48042-00081

AI ID: 595

July 03, 2024

Indiana Department of Environmental Management  
Permit Administration and Support Section, Office of Air Quality  
100 North Senate Avenue  
MC 61-53 IGCN 1003  
Indianapolis, IN 46204-2251

Received by State of Indiana IDEM-  
OAQ via email July 3, 2024 MJ-1

**RE:   *Federally Enforceable State Operating Permit Application***  
***GXO - Lebanon Facility***  
***Source ID: 011-00081;***

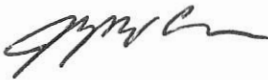
To Whom It May Concern:

Enclosed is an application for a Federally Enforceable State Operating Permit (FESOP) for the GXO shoe shredding and storage facility located at 135 S Mt Zion Road in Lebanon, Indiana (Lebanon Facility).

If there are any questions concerning this application or if additional information is needed to process this request, please do not hesitate to contact Emily Stewart of Trinity Consultants at (317) 451-8102 or me at (765) 894-8254

Sincerely,

GXO



Jeff Carlson, OHST  
Senior Manager EHS  
GXO

Enclosures

cc:   Emily Stewart (Trinity Consultants)

# FEDERALLY ENFORCEABLE STATE OPERATING PERMIT APPLICATION

**GXO**  
Lebanon, Indiana

**GXO**

**Prepared By:**

**TRINITY CONSULTANTS**

8900 Keystone Crossing  
Suite 1070  
Indianapolis, IN 46240  
(317) 451-8100

June 2024

Project 241501.0066

**Trinity**  
Consultants 

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## 1. INTRODUCTION

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GXO operates a shoe shredding facility in Lebanon Indiana (Lebanon Facility). GXO currently operates the Lebanon Facility under minor source operating permit (MSOP) No. 011-44748-00081, issued by the Indiana Department of Environmental Management (IDEM) on June 7, 2022. IDEM has requested that GXO update the potential emission calculation methodology of the shoe shredding operation. The new source-wide uncontrolled PTE considering the updated emissions calculation methodology will result in an increase in uncontrolled Potential to Emit (PTE) for the facility such that the facility will no longer meet MSOP applicability criteria. Therefore, GXO is submitting this application to transition the Lebanon Facility to a Federally Enforceable State Operating Permit (FESOP) and implement the changes under 326 IAC 2-8 to reflect the current operations at the Lebanon Facility. All required state forms are included in Appendix A, and detailed emissions calculations are included in Appendix B.

## 2. PERMIT UPDATES

### 2.1 Facility Location

The Lebanon Facility is located at 135 Mt. Zion Road Lebanon, Indiana. The Lebanon Facility is located in Boone County, which has been designated as attainment or unclassifiable for all criteria pollutants.<sup>1</sup>

### 2.2 Project Description

The proposed project is an update to calculation methodology only. GXO anticipates that there will be no physical change or increased throughput to any emissions units at the Lebanon Facility as part of this project. There will be no new emissions units added to the Lebanon Facility as part of this project. The emission unit descriptions included in the Lebanon Facility's current MSOP will not require any updates as part of this project.

### 2.3 Emissions Calculation

The Lebanon Facility emits particulate matter (PM), particulate matter with an aerodynamic diameter of less than 10 microns (PM<sub>10</sub>), particulate matter with an aerodynamic diameter of less than 2.5 microns (PM<sub>2.5</sub>), nitrogen oxides (NO<sub>x</sub>), carbon monoxide (CO), sulfur dioxide (SO<sub>2</sub>), volatile organic compounds (VOC), and hazardous air pollutants (HAPs).

Source-wide uncontrolled potential emissions for the Lebanon Facility are summarized in Table 2-1. Detailed emission calculations for each emission unit are included in Appendix B.

**Table 2-1. Source-wide Unlimited, Uncontrolled PTE**

Uncontrolled Potential to Emit (tons/yr)								
Emissions Unit	PM	PM <sub>10</sub>	PM <sub>2.5</sub> *	SO <sub>2</sub>	NO <sub>x</sub>	VOC	CO	Total HAPs
Shoe Shredder Process (EU-01)	917.13	917.13	917.13	-	-	-	-	-
Natural Gas Combustion	0.13	0.54	0.54	0.04	7.07	0.39	5.94	0.13
Diesel-fired Emergency Generator (EG-01)	0.11	0.06	0.06	0.02	3.81	0.11	0.87	1.75E-03
<b>Total (Excluding Fugitives)</b>	<b>917.37</b>	<b>917.73</b>	<b>917.73</b>	<b>0.06</b>	<b>10.88</b>	<b>0.50</b>	<b>6.81</b>	<b>0.14</b>
Paved Roads (Fugitives)	17.29	3.46	0.85	-	-	-	-	-
<b>Total</b>	<b>934.67</b>	<b>921.19</b>	<b>918.58</b>	<b>0.06</b>	<b>10.88</b>	<b>0.50</b>	<b>6.81</b>	<b>0.14</b>
<b>Title V Thresholds</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>25</b>
<b>FESOP Required?</b>	<b>Yes</b>	<b>Yes</b>	<b>Yes</b>	<b>No</b>	<b>No</b>	<b>No</b>	<b>No</b>	<b>No</b>

\* PM<sub>2.5</sub> listed is direct PM<sub>2.5</sub>

**Table 2-2. Source-wide Controlled Emissions**

Potential to Emit after Control (tons/yr)								
Emissions Unit	PM	PM <sub>10</sub>	PM <sub>2.5</sub> *	SO <sub>2</sub>	NO <sub>x</sub>	VOC	CO	Total HAPs
Shoe Shredder Process (EU-01)	9.17	9.17	9.17	-	-	-	-	-
Natural Gas Combustion	0.13	0.54	0.54	0.04	7.07	0.39	5.94	0.13
Diesel-fired Emergency Generator (EG-01)	0.11	0.06	0.06	0.02	3.81	0.11	0.87	1.75E-03
Paved Roads	17.29	3.46	0.85	-	-	-	-	-
<b>Total</b>	<b>26.71</b>	<b>13.23</b>	<b>10.62</b>	<b>0.06</b>	<b>10.88</b>	<b>0.50</b>	<b>6.81</b>	<b>0.14</b>

\* PM<sub>2.5</sub> listed is direct PM<sub>2.5</sub>

<sup>1</sup> 326 IAC 1-4-7

## 3. REGULATORY APPLICABILITY

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This section of the permit application summarizes the air permitting requirements and the key air quality regulations that apply to the Lebanon Facility emission units. Specifically, applicability of PSD, NSPS, NESHAP, and 326 IAC regulations are discussed. Operations at the Lebanon Facility are subject or potentially subject to certain federal and state air quality regulations.

### 3.1 Federal Regulatory Applicability

#### 3.1.1 Prevention of Significant Deterioration Programs

The Lebanon Facility is located in Boone County, which has been designated as attainment or unclassifiable for all criteria pollutants.<sup>2</sup>

Indiana has incorporated the requirements of the PSD program into its State Implementation Plan (SIP) at 326 IAC 2-2. These PSD regulations specifically define 28 industrial source categories for which the "major" source threshold is 100 tons per year (tpy) of any regulated pollutant. The major source threshold for facilities not on this "List of 28" is 250 tpy. The Lebanon Facility is classified under SIC 5093 (Scrap and Waste Materials) and 4225 (General Warehousing and Storage), which are not included on the "List of 28" source categories. Thus, the major source threshold under the PSD program for the Lebanon Facility is 250 tpy for each regulated pollutant.

As shown in Table 2-1 and the detailed emissions calculations in Appendix B, the uncontrolled PTE of PM, PM<sub>10</sub>, and PM<sub>2.5</sub> exceed the 250 tpy threshold after the emissions calculation methodology changes proposed in this application. As shown in Table 2-2, The Lebanon facility expects actual emissions from the shoe shredding process to be significantly lower. Therefore, the Lebanon Facility requests emissions from the shoe shredding process be limited such that total facility-wide PTE does not exceed PSD thresholds for any regulated pollutant.

Taking into consideration the requested emissions limitation, the limited PTE of each regulated NSR pollutant is below the 250 tpy PSD major source threshold. Therefore, the Lebanon Facility will continue to be classified as an existing minor source under the PSD program.

#### 3.1.2 National Emission Standards for Hazardous Air Pollutants (NESHAP)

National Emission Standards for Hazardous Air Pollutants (NESHAPs) apply to sources in specifically regulated industrial source classifications (Clean Air Act Section 112(d)) or on a case-by-case basis (Clean Air Act Section 112(g)) for facilities not regulated as a specific industrial source type. Pollutant specific NESHAP may also be applicable. NESHAP are primarily developed for particular industrial source categories. Therefore, the potential applicability of a particular NESHAP to a facility can be readily ascertained based on the industrial source category covered. NESHAP applicability at the Lebanon facility will not change as a result of the transition to a FESOP.

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<sup>2</sup> U.S. EPA, *The Green Book Nonattainment Areas for Criteria Pollutants*, June 4, 2024.

### 3.1.3 New Source Performance Standards (NSPS)

New Source Performance Standards (NSPS) require new, modified, or reconstructed sources in applicable source categories to control emissions to the level achievable by the best demonstrated technology as specified in the applicable provisions. Any source subject to an NSPS is also subject to the general provisions of NSPS Subpart A, except as noted. NSPS applicability at the Lebanon facility will not change as a result of the transition to a FESOP.

## 3.2 State Regulatory Applicability

### 3.2.1 Hazardous Air Pollutants (326 IAC 2-4.1)

The Lebanon Facility has the potential to emit less than 10 tpy of any individual hazardous air pollutant (HAP) and less than 25 tpy of combined HAPs. Therefore, the Lebanon Facility is considered an area source.

### 3.2.2 FESOP (326 IAC 2-8)

The Lebanon Facility currently operates under a MSOP as described in Section 1. The updates to emissions calculation methodology will result in an increase in PTE for the facility such that the source will no longer meet MSOP applicability criteria. Therefore, the Lebanon Facility is proposing to transition to a FESOP and implement the changes under 326 IAC 2-8 to reflect the current operations at the Lebanon Facility. The Lebanon Facility requests emissions from the shoe shredding operation be limited such that the PTE of each regulated pollutant is below Title V thresholds.

### 3.2.3 Particulate Emissions Limitations for Sources of Indirect Heating (326 IAC 6-2)

The provisions of 326 IAC 6-2-4 regulate PM emissions from indirect heating facilities installed after September 21, 1983. The natural gas-fired combustion units at the GXO Lebanon are classified as indirect heating sources based on the definition of combustion for indirect heating in 326 IAC 1-2-19. Allowable PM emissions from the GXO Lebanon were calculated using the following equation:

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

Where:

Pt = pounds of particulate matter emitted per million Btu (MMBtu) heat input

Q = total source maximum operating capacity rating in million Btu per hour (MMBtu/hr) heat input.

The GXO Lebanon has a facility-wide heat input for indirect heating sources of 16.3 MMBtu/hr. Based on the equation above, allowable PM emissions from the heaters are calculated at 0.53 lb/MMBtu. The emissions from these units were calculated using emission factors from AP 42, Chapter 1.4. These factors indicate that

the emission rate for these units is 0.007 lb/MMBtu; therefore, no control devices are required to satisfy the requirements of 326 IAC 6-2.



### 3.2.4 Particulate Emissions Limitations for Manufacturing Processes (326 IAC 6-3)

Pursuant to 326 IAC 6-3-2(e), the allowable rate of particulate emissions is calculated using the following equation for process weight rates up to 60,000 pounds per hour (lbs/hr):

$$E = 4.10 \times P^{0.67}$$

and the following equation is used for process weight rates in excess of 60,000 pounds per hour (lbs/hr):

$$E = 55.0 \times P^{0.11} - 40$$

where: E = Rate of emissions (lbs/hr)  
P = Process weight rate (tons/hr).

The table below provides a summary of process weight rate and the rate of allowable emissions for the shoe shredder. The uncontrolled and unlimited PTE for the shoe shredder exceeds the 326 IAC 6-3-2 particulate emission limit. Therefore, the shredder is required to use a control device to comply with the emission limit per 326 IAC 6-3-2. The Lebanon Facility will continue to comply with this requirement by operating baghouse CE-01.

**Table 3-1. 326 IAC 6-3-2 Applicability**

Process	Process Weight Rate (P) (tons/hr)	Process Weight Rate (lbs/hr)	Allowable Emissions (E) (lbs/hr)	Uncontrolled PM Emissions (lbs/hr)	Controls Required to Meet Limit?
Shoe Shedding Process	1.5	3,000	5.38	209.39	Yes

### 3.2.5 Fugitive Emissions (326 IAC 6-4)

The provisions of 326 IAC 6-4 are applicable to all sources of fugitive dust. Fugitive dust is defined for this rule as "the generation of particulate matter to the extent that some portion of the material escapes beyond the property line or boundaries of the property right-of-way, or easement on which the source is located". To ensure compliance with the requirements of 326 IAC 6-4, the Lebanon Facility will not allow fugitive dust to escape beyond the property.

### 3.2.6 Fugitive Particulate Matter Emissions Limitations (326 IAC 6-5)

The provisions of 326 IAC 6-5 apply to any source of fugitive particulate matter emissions greater than 25 tpy. Emissions of fugitive particulate matter from the Lebanon Facility are less than 25 tpy; therefore, the provisions of 326 IAC 6-5 do not apply to the Lebanon Facility.

### 3.2.7 326 IAC 7-1.1 (SO<sub>2</sub> Rules)

The provisions of 326 IAC 7-1.1 apply to all emission units with a potential to emit SO<sub>2</sub> at rates greater than or equal to 25 tpy or 10 pounds per hour. The unlimited and uncontrolled potential to emit SO<sub>2</sub> from the emissions units at the Lebanon Facility are each less than 25 tpy; therefore, the requirements of 326 IAC 7-1.1 do not apply to the Lebanon Facility.

### **3.2.8 326 IAC 8-1-6 (VOC Rules, Best Available Control Technology)**

The provisions of 326 IAC 8-1-6 are applicable to new facilities as of January 1, 1980, that have potential emissions of 25 tpy or more of VOC, are located anywhere in the state, and are not otherwise regulated by another Article 8 rule. The emission units at the Lebanon Facility will each have potential VOC emissions of less than 25 tpy; therefore, the provisions of 326 IAC 8-1-6 do not apply.

## **APPENDIX A. STATE FORMS**

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**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](http://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	
<b>PERMIT NUMBER:</b>	011-48042-00081
<b>DATE APPLICATION WAS RECEIVED:</b>	Received by State of Indiana IDEM-OAQ via email July 3, 2024 MJ-1

1. Tax ID Number: [REDACTED]

**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: GXO		3. Plant ID: 011 – 00081
4. Billing Address: 135 S Mt Zion Rd		
City: Lebanon	State: IN	ZIP Code: 46052 –
5. Permit Level: <input type="checkbox"/> Exemption <input type="checkbox"/> Registration <input type="checkbox"/> SSOA <input checked="" type="checkbox"/> MSOP <input type="checkbox"/> FESOP <input type="checkbox"/> TVOP <input type="checkbox"/> PBR		
6. Application Summary: Check all that apply. Multiple permit numbers may be assigned as needed based on the choices selected below.		
<input type="checkbox"/> Initial Permit	<input type="checkbox"/> Renewal of Operating Permit	<input type="checkbox"/> Asphalt General Permit
<input type="checkbox"/> Review Request	<input 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 checked="" type="checkbox"/> Transition (between permit levels) From: MSOP To: FESOP		
<input type="checkbox"/> Administrative Amendment: <input type="checkbox"/> Company Name Change <input type="checkbox"/> Change of Responsible Official		
<input type="checkbox"/> <input type="checkbox"/> Correction to Non-Technical Information <input type="checkbox"/> Notice Only Change		
<input type="checkbox"/> <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"/> <input type="checkbox"/> New Applicable Permit Requirement <input type="checkbox"/> Change to Applicability of a Permit Requirement		
<input type="checkbox"/> <input type="checkbox"/> Prevention of Significant Deterioration <input type="checkbox"/> Emission Offset <input type="checkbox"/> MACT Preconstruction Review		
<input type="checkbox"/> <input type="checkbox"/> Minor Source Modification <input type="checkbox"/> Significant Source Modification		
<input type="checkbox"/> <input type="checkbox"/> Minor Permit Modification <input type="checkbox"/> Significant Permit Modification		
<input type="checkbox"/> <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: 5/6/2024

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.

Bill Wetzel  
Name (typed)

VP SC Operations  
Title

  
Signature

6-26-2024  
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](http://www.IN.gov/idem)

Received by State of Indiana IDEM-OAQ  
 via email July 3, 2024 MJ-1

**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.

011-48042-00081

PART A: Source / Company Location Information			
1. Source / Company Name: GXO		2. Plant ID: 011 – 00081	
3. Location Address: 135 S Mt Zion Rd			
City: Lebanon		State: IN	ZIP Code: 46052 –
4. County Name: Boone		5. Township Name: Center	
6. Geographic Coordinates:			
Latitude: 40° 02' 16"		Longitude: 86° 28' 54"	
7. Universal Transferal Mercadum Coordinates (if known):			
Zone: 16T	Horizontal: 544236 E	Vertical: 4432101 N	
8. Adjacent States: Is the source located within 50 miles of an adjacent state?			
<input checked="" type="checkbox"/> No <input type="checkbox"/> Yes – Indicate Adjacent State(s): <input 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 – Indicate Nonattainment Pollutant(s): <input type="checkbox"/> CO <input type="checkbox"/> Pb <input type="checkbox"/> NO <sub>x</sub> <input type="checkbox"/> O <sub>3</sub> <input type="checkbox"/> PM <input type="checkbox"/> PM <sub>10</sub> <input type="checkbox"/> PM <sub>2.5</sub> <input type="checkbox"/> SO <sub>2</sub>			
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): GXO.com	
12. Company Name History: Has this source operated under any other name(s)?	
<input checked="" type="checkbox"/> No <input type="checkbox"/> Yes – Provide information regarding past company names in Part I, Company Name History.	
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 – Complete Part J, Portable Source Location History, and Part K, Request to Change Location of Portable Source.	
14. Existing Approvals: Have any exemptions, registrations, or permits been issued to this source?	
<input type="checkbox"/> No <input checked="" type="checkbox"/> Yes – List these permits and their corresponding emissions units in Part M, Existing Approvals.	
15. Unpermitted Emissions Units: Does this source have any unpermitted emissions units?	
<input checked="" type="checkbox"/> No <input type="checkbox"/> Yes – List all unpermitted emissions units in Part N, Unpermitted Emissions Units.	
16. New Source Review: Is this source proposing to construct or modify any emissions units?	
<input checked="" type="checkbox"/> No <input type="checkbox"/> Yes – List all proposed new construction in Part O, New or Modified Emissions Units.	
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: Jeff Carlson

19. Title (optional): Senior Manager EHS

20. Mailing Address: 135 S Mt Zion Rd

City: Lebanon

State: IN

ZIP Code: 46052 -

21. Electronic Mail Address (optional): Jeff.Carlson@gxo.com

22. Telephone Number: ( 765 ) 894 - 8254

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: Bill Wetzel

25. Title: VP SC Operations

26. Mailing Address: 135 S Mt Zion Rd

City: Lebanon

State: IN

ZIP Code: 46052 -

27. Telephone Number: ( 317 ) 250 - 8563

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: GXO

31. Name of Owner Contact Person: Jeff Carlson

32. Mailing Address: 135 S Mt Zion Rd

City: Lebanon

State: IN

ZIP Code: 46052 -

33. Telephone Number: ( 765 ) 894 - 8254

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:** Trinity Consultants

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

**42. Name of Agent Contact Person:** Emily Stewart

**43. Mailing Address:** 8900 Keystone Crossing, Suite 1070

<b>City:</b> Indianapolis	<b>State:</b> IN	<b>ZIP Code:</b> 46240 –
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**44. Electronic Mail Address (optional):** estewart@trinityconsultants.com

**45. Telephone Number:** ( 317 ) 451 – 8102      **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:** Within 10 days of application submittal

**49. Name of Library:** Lebanon Public Library

**50. Name of Librarian (optional):**

**51. Mailing Address:** 104 E. Washington St

<b>City:</b> Lebanon	<b>State:</b> IN	<b>ZIP Code:</b> 46052 –
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**52. Internet Address (optional):** <http://leblib.org/>

**53. Electronic Mail Address (optional):**

**54. Telephone Number:** ( 765 ) 482 – 3460      **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
N/A	to
	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 J: Portable Source Location History** *(if applicable)*

Complete this section only if the source is portable and the location has changed since the previous permit was issued. The current location of the source should be listed in Section A.

59. Plant ID	60. Location of the Portable Source	61. Dates at this Location
—	N/A	to
—		to
—		to
—		to
—		to
—		to
—		to
—		to
—		to
—		to
—		to
—		to
—		to
—		to
—		to
—		to
—		to
—		to
—		to
—		to
—		to

**PART K: Request to Change Location of Portable Source** *(if applicable)*

Complete this section to request a change of location for a portable source.

**62. Current Location:**

Address: N/A

City:

State:

ZIP Code: —

County Name:

**63. New Location:**

Address: N/A

City:

State:

ZIP Code: —

County Name:

**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
Shredding of new and used shoes	Rubber, foam, and lint/fuzz like material that is bagged and sent off-site	5093	493110
General Warehouse and Storage	Rubber, foam, and lint/fuzz like material that is bagged and sent off-site	4225	493110

**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
44748	Initial MSOP	7/7/2027

**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			

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## **APPENDIX B. EMISSION CALCULATIONS**

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**Appendix B: Emission Calculations  
PTE Summary**

**Company Name:** GXO  
**Source Address:** 135 S Mt. Zion Rd, Lebanon, IN 46052

<b>Uncontrolled Potential to Emit (tons/yr)</b>								
<b>Emissions Unit</b>	<b>PM</b>	<b>PM<sub>10</sub></b>	<b>PM<sub>2.5</sub> *</b>	<b>SO<sub>2</sub></b>	<b>NOx</b>	<b>VOC</b>	<b>CO</b>	<b>Total HAPs</b>
Shoe Shredder Process (EU-01)	917.13	917.13	917.13	-	-	-	-	-
Natural Gas Combustion	0.13	0.54	0.54	0.04	7.07	0.39	5.94	0.13
Diesel-fired Emergency Generator (EG-01)	0.11	0.06	0.06	0.02	3.81	0.11	0.87	1.75E-03
<b>Total (Excluding Fugitives)</b>	<b>917.37</b>	<b>917.73</b>	<b>917.73</b>	<b>0.06</b>	<b>10.88</b>	<b>0.50</b>	<b>6.81</b>	<b>0.14</b>
Paved Roads (Fugitives)	17.29	3.46	0.85	-	-	-	-	-
<b>Total</b>	<b>934.67</b>	<b>921.19</b>	<b>918.58</b>	<b>0.06</b>	<b>10.88</b>	<b>0.50</b>	<b>6.81</b>	<b>0.14</b>
<b>Title V Thresholds</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>25</b>
<b>FESOP Required?</b>	<b>Yes</b>	<b>Yes</b>	<b>Yes</b>	<b>No</b>	<b>No</b>	<b>No</b>	<b>No</b>	<b>No</b>

\* PM<sub>2.5</sub> listed is direct PM<sub>2.5</sub>

<b>Potential to Emit after Control (tons/yr)</b>								
<b>Emissions Unit</b>	<b>PM</b>	<b>PM<sub>10</sub></b>	<b>PM<sub>2.5</sub> *</b>	<b>SO<sub>2</sub></b>	<b>NOx</b>	<b>VOC</b>	<b>CO</b>	<b>Total HAPs</b>
Shoe Shredder Process (EU-01)	9.17	9.17	9.17	-	-	-	-	-
Natural Gas Combustion	0.13	0.54	0.54	0.04	7.07	0.39	5.94	0.13
Diesel-fired Emergency Generator (EG-01)	0.11	0.06	0.06	0.02	3.81	0.11	0.87	1.75E-03
Paved Roads	17.29	3.46	0.85	-	-	-	-	-
<b>Total</b>	<b>26.71</b>	<b>13.23</b>	<b>10.62</b>	<b>0.06</b>	<b>10.88</b>	<b>0.50</b>	<b>6.81</b>	<b>0.14</b>

\* PM<sub>2.5</sub> listed is direct PM<sub>2.5</sub>

**Appendix B: Emissions Calculations  
Shoe Shedding Process**

**Company Name:** GXO  
**Source Address:** 135 S Mt. Zion Rd, Lebanon, IN 46052

Process Description	Outlet Grain Loading <sup>1</sup> (gr/dscf)	Nominal Flow Rate (acfm)	Nominal Flow Rate (dscfm)	Control Efficiency (%)	PTE of PM/PM <sub>10</sub> /PM <sub>2.5</sub> after Control (lbs/hr)	PTE of PM/PM <sub>10</sub> /PM <sub>2.5</sub> after Control (tons/yr)	PTE of PM/PM <sub>10</sub> /PM <sub>2.5</sub> before Control (lbs/hr)	PTE of PM/PM <sub>10</sub> /PM <sub>2.5</sub> before Control <sup>2</sup> (tons/yr)
Baghouse CE-01	0.010	24,720	24,428.87	99%	2.09	9.17	209.39	917.13

**Notes**

<sup>1</sup> Manufacturer specification states residual dust is <10 mg/m<sup>3</sup>

<sup>2</sup> This overestimates PTE before control because the values are back-calculated using nominal air flow and a theoretical control device efficiency instead of factors better reflecting unit

**Methodology**

PTE of PM/PM<sub>10</sub>/PM<sub>2.5</sub> after Control (lbs/hr) = Grain Loading (gr/dscfm) x Nominal Flow Rate (dscfm) x 60 min/hr x 1/7000 lb/gr

PTE of PM/PM<sub>10</sub>/PM<sub>2.5</sub> after Control (tons/yr) = Grain Loading (gr/dscfm) x Nominal Flow Rate (dscfm) x 60 min/hr x 1/7000 lb/gr x 8760 hr/yr x 1/2000 ton/lbs

PTE of PM/PM<sub>10</sub>/PM<sub>2.5</sub> before Control (lbs/hr) = PTE of PM/PM<sub>10</sub>/PM<sub>2.5</sub> after Control (lbs/hr) / (1-Control Efficiency)

PTE of PM/PM<sub>10</sub>/PM<sub>2.5</sub> before Control (tons/yr) = PTE of PM/PM<sub>10</sub>/PM<sub>2.5</sub> after Control (tons/yr) / (1-Control Efficiency)

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

**Company Name:** GXO  
**Source Address:** 135 S Mt. Zion Rd, Lebanon, IN 46052

Unit Description	# of Units	MMBtu per unit	Total MMBtu
NG Rooftop Heaters	44	0.27	11.88
NG Rooftop Heaters	2	0.23	0.46
NG Make-up Air Units	3	0.24	0.72
NG Tube Heaters	17	0.2	3.4

Heat Input Capacity MMBtu/hr	HHV mmBtu mmscf	Potential Throughput MMCF/yr
16.46	1020	141.4

Emission Factor in lb/MMCF	Pollutant						
	PM*	PM10*	direct PM2.5*	SO2	NOx	VOC	CO
Potential Emission in tons/yr	0.13	0.54	0.54	0.04	7.07	0.39	5.94

\*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 = 100, Low NOx Burner = 50, Low NOx Burners/Flue gas recirculation = 32

**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
Potential Emission in tons/yr	1.5E-04	8.5E-05	5.3E-03	1.3E-01	2.4E-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
Potential Emission in tons/yr	3.5E-05	7.8E-05	9.9E-05	2.7E-05	1.5E-04

<b>Potential Emission of Combined HAPs (tons/yr)</b>	<b>1.3E-01</b>
<b>Potential Emission of Highest Single HAP (tons/yr)</b>	<b>1.3E-01 Hexane</b>

**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 B: Emission Calculations**  
**Large Reciprocating Internal Combustion Engines - Diesel Fuel**  
**Output Rating (>600 HP)**  
**Maximum Input Rate (>4.2 MMBtu/hr)**

**Company Name:** GXO  
**Source Address:** 135 S Mt. Zion Rd, Lebanon, IN 46052

**Emissions calculated based on output rating (hp)**

Output Horsepower Rating (hp)	635.0
Maximum Hours Operated per Year	500
Potential Throughput (hp-hr/yr)	317,500
Sulfur Content (S) of Fuel (% by weight)	0.015

	Pollutant						
	PM*	PM10*	direct PM2.5*	SO2	NOx	VOC	CO
Emission Factor in lb/hp-hr	7.00E-04	4.01E-04	3.89E-04	1.21E-04 (.008095)	2.40E-02 **see below	7.05E-04	5.50E-03
Potential Emission in tons/yr	0.11	0.06	0.06	0.02	3.81	0.11	0.87

\*PM emission factor is from AP-42 Table 3.4-1. The PM10 and PM2.5 emission factors for are from AP-42 Table 3.4-2. The PM10 emission factor is the sum of filterable PM10 and condensable particulate. The PM2.5 emission factor is the sum of filterable particulate less than 3 um and condensable particulate. Emission factors in lb/hp-hr were calculated using the emission factor in lb/MMBtu and a brake specific fuel consumption of 7,000 Btu / hp-hr (AP-42 Tables 3.3-1 and 3.4-1).

\*\*NOx emission factor: uncontrolled = 0.024 lb/hp-hr, controlled by ignition timing retard = 0.013 lb/hp-hr

**Hazardous Air Pollutants (HAPs)**

	Pollutant						Total PAH HAPs***
	Benzene	Toluene	Xylene	Formaldehyde	Acetaldehyde	Acrolein	
Emission Factor in lb/hp-hr****	5.43E-06	1.97E-06	1.35E-06	5.52E-07	1.76E-07	5.52E-08	1.48E-06
Potential Emission in tons/yr	8.62E-04	3.12E-04	2.14E-04	8.77E-05	2.80E-05	8.76E-06	2.36E-04

\*\*\*PAH = Polyaromatic Hydrocarbon (PAHs are considered HAPs, since they are considered Polycyclic Organic Matter)

\*\*\*\*Emission factors in lb/hp-hr were calculated using emission factors in lb/MMBtu and a brake specific fuel consumption of 7,000 Btu / hp-hr (AP-42 Tables 3.3-1 and 3.4-1).

<b>Potential Emission of Total HAPs (tons/yr)</b>	<b>1.75E-03</b>
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**Methodology**

Emission Factors are from AP 42 (Supplement B 10/96) Tables 3.4-1 , 3.4-2, 3.4-3, and 3.4-4.

Potential Throughput (hp-hr/yr) = [Output Horsepower Rating (hp)] \* [Maximum Hours Operated per Year]

Potential Emission (tons/yr) = [Potential Throughput (hp-hr/yr)] \* [Emission Factor (lb/hp-hr)] / [2,000 lb/ton]



**Appendix B: Emission Calculations  
Fugitive Dust Emissions - Paved Roads**

**Company Name:** GXO  
**Source Address:** 135 S Mt. Zion Rd, Lebanon, IN 46052  
**Permit Number:** M 011-44748-00081

**Paved Roads at Industrial Site**

The following calculations determine the amount of emissions created by paved roads, based on 8,760 hours of use and AP-42, Ch 13.2.1 (1/2011).

Vehicle Information (provided by source)

Type	Maximum number of vehicles per day	Number of one-way trips per day per vehicle	Maximum trips per day (trip/day)	Maximum Weight of Loaded Vehicle (tons/trip)	Total Weight driven per day (ton/day)	Maximum one-way distance (feet/trip)	Maximum one-way distance (mi/trip)	Maximum one-way miles (miles/day)	Maximum one-way miles (miles/yr)
Semi-Trucks Inbound	20.0	1.0	20.0	40.0	800.0	4435	0.840	16.8	6131.7
Semi-Trucks Outbound	12.0	1.0	12.0	40.0	480.0	4435	0.840	10.1	3679.0
Box Trucks Inbound	2.0	1.0	2.0	10.0	20.0	4435	0.840	1.7	613.2
Box Trucks Outbound	2.0	1.0	2.0	10.0	20.0	4435	0.840	1.7	613.2
<b>Totals</b>			<b>36.0</b>		<b>1320.0</b>			<b>30.2</b>	<b>11037.1</b>

Average Vehicle Weight Per Trip = 36.7 tons/trip  
Average Miles Per Trip = 0.84 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 =	36.7	36.7	36.7	tons = average vehicle weight
sL =	9.7	9.7	9.7	g/m <sup>2</sup> = silt loading value for paved roads at iron and steel production facilities - 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, $E_f =$	3.427	0.685	0.1682	lb/mile
Mitigated Emission Factor, $E_{ext} =$	3.134	0.627	0.1538	lb/mile
Dust Control Efficiency =	50%	50%	0%	(pursuant to control measures outlined in fugitive dust control plan)

Process	Mitigated PTE of PM (Before Control) (tons/yr)	Mitigated PTE of PM10 (Before Control) (tons/yr)	Mitigated PTE of PM2.5 (Before Control) (tons/yr)	Mitigated PTE of PM (After Control) (tons/yr)	Mitigated PTE of PM10 (After Control) (tons/yr)	Mitigated PTE of PM2.5 (After Control) (tons/yr)
Semi-Trucks Inbound	9.61	1.92	0.47	4.80	0.96	0.47
Semi-Trucks Outbound	5.76	1.15	0.28	2.88	0.58	0.28
Box Trucks Inbound	0.96	0.19	0.05	0.48	0.10	0.05
Box Trucks Outbound	0.96	0.19	0.05	0.48	0.10	0.05
<b>Totals</b>	<b>17.29</b>	<b>3.46</b>	<b>0.85</b>	<b>8.65</b>	<b>1.73</b>	<b>0.85</b>

**Methodology**

Total Weight driven per day (ton/day) = [Maximum Weight of Loaded Vehicle (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 day (trip/day)] \* [Maximum one-way distance (mi/trip)]  
Average Vehicle Weight Per Trip (ton) = 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 day (trip/day)]  
Unmitigated PTE (tons/yr) = [Maximum one-way miles (miles/yr)] \* [Unmitigated Emission Factor (lb/mile)] \* (ton/2000 lbs)  
Mitigated PTE (Before Control) (tons) = [Maximum one-way miles (miles/yr)] \* [Mitigated Emission Factor (lb/mile)] \* (ton/2000 lbs)  
Mitigated PTE (After Control) (tons/yr) = [Mitigated PTE (Before Control) (tons/yr)] \* [1 - Dust Control Efficiency]

**Abbreviations**

PM = Particulate Matter  
PM10 = Particulate Matter (<10 um)  
PM2.5 = Particulate Matter (<2.5 um)  
PTE = Potential to Emit

**Appendix B: Emissions Calculations  
326 IAC 6-3-2 Applicability**

**Company Name:** GXO  
**Source Address:** 135 S Mt. Zion Rd, Lebanon, IN 46052

Process	Process Weight Rate (P) (tons/hr)	Process Weight Rate (lbs/hr)	Allowable Emissions (E) (lbs/hr)	Uncontrolled PM Emissions (lbs/hr)	Controls Required to Meet Limit?
Shoe Shedding Process	1.5	3,000	5.38	209.39	Yes

Pursuant to 326 IAC 6-3-2(e), the allowable rate of particulate emissions is calculated using the following equation for process weight rates up to 60,000 pounds per hour (lbs/hr):  $E = 4.1 * (P^{0.67})$