NOTICE OF 30-DAY PERIOD
FOR PUBLIC COMMENT

Preliminary Findings Regarding a Significant Revision to a
Federally Enforceable State Operating Permit (FESOP)

for Pyrolyx USA Indiana LLC
in Vigo County

Significant Permit Revision No.: 167-41726-00160

The Indiana Department of Environmental Management (IDEM) has received an application from Pyrolyx USA Indiana LLC, located at 4150 East Steelton Avenue, Terre Haute, Indiana 47805, for a significant revision of its NSC/FESOP issued on May 18, 2017. If approved by IDEM’s Office of Air Quality (OAQ), this proposed revision would allow Pyrolyx USA Indiana LLC to make certain changes at its existing source. Pyrolyx USA Indiana LLC has applied to construct another plant that is exactly similar with the existing permitted shredded rubber pyrolysis plant 1.

A copy of the permit application and IDEM’s preliminary findings are available at:

Vigo County Public Library
One Library Square
Terre Haute, Indiana 47807

A copy of the preliminary findings is available on the Internet at: [http://www.in.gov/ai/appfiles/idem-caats/](http://www.in.gov/ai/appfiles/idem-caats/).

A copy of the preliminary findings is also available via IDEM’s Virtual File Cabinet (VFC.) Please go to: [http://www.in.gov/idem/](http://www.in.gov/idem/) and enter VFC in the search box. You will then have the option to search for permit documents using a variety of criteria.

How can you participate in this process?

The date that this notice is posted on IDEM’s website ([https://www.in.gov/idem/5474.htm](https://www.in.gov/idem/5474.htm)) marks the beginning of a 30-day public comment period. If the 30th day of the comment period falls on a day when IDEM offices are closed for business, all comments must be postmarked or delivered in person on the next business day that IDEM is open.

You may request that IDEM hold a public hearing about this draft permit. If adverse comments concerning the air pollution impact of this draft permit are received, with a request for a public hearing, IDEM will decide whether or not to hold a public hearing. IDEM could also decide to hold a public meeting instead of, or in addition to, a public hearing. If a public hearing or meeting is held, IDEM will make a separate announcement of the date, time, and location of that hearing or meeting. At a hearing, you would have an opportunity to submit written comments and make verbal comments. At a meeting, you would have an opportunity to submit written comments, ask questions, and discuss any air pollution concerns with IDEM staff.

Comments and supporting documentation, or a request for a public hearing should be sent in writing to IDEM at the address below. If you comment via e-mail, please include your full U.S. mailing address so that you can be added to IDEM’s mailing list to receive notice of future action related to this permit. If you do not want to comment at this time, but would like to receive notice of future action related to this permit
application, please contact IDEM at the address below. Please refer to permit number SPR 167-41726-00160 in all correspondence.

Comments should be sent to:

Aida DeGuzman  
IDEM, Office of Air Quality  
100 North Senate Avenue  
MC 61-53 IGCN 1003  
Indianapolis, Indiana 46204-2251  
(800) 451-6027, ask for Aida DeGuzman or (317) 233-4972  
Or dial directly: (317) 233-4972  
Fax: (317) 232-6749 attn: Aida DeGuzman  
E-mail: adeguza@idem.IN.gov

All comments will be considered by IDEM when we make a decision to issue or deny the permit. Comments that are most likely to affect final permit decisions are those based on the rules and laws governing this permitting process (326 IAC 2), air quality issues, and technical issues. IDEM does not have legal authority to regulate zoning, odor, or noise. For such issues, please contact your local officials.

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: http://www.in.gov/idem/airquality/2356.htm; and the Citizens' Guide to IDEM on the Internet at: http://www.in.gov/idem/6900.htm.

What will happen after IDEM makes a decision?

Following the end of the public comment period, IDEM will issue a Notice of Decision stating whether the permit has been issued or denied. If the permit is issued, it may be different than the draft permit because of comments that were received during the public comment period. If comments are received during the public notice period, the final decision will include a document that summarizes the comments and IDEM's response to those comments. If you have submitted comments or have asked to be added to the mailing list, you will receive a Notice of the Decision. The notice will provide details on how you may appeal IDEM's decision, if you disagree with that decision. The final decision will also be available on the Internet at the address indicated above, at the local library indicated above, and the IDEM public file room on the 12th floor of the Indiana Government Center North, 100 N. Senate Avenue, Indianapolis, Indiana 46204-2251.

If you have any questions, please contact Aida DeGuzman of my staff at the above address.

Josiah K. Balogun, Section Chief  
Permits Branch  
Office of Air Quality
Mr. Thomas Redd  
Pyrolyx USA Indiana LLC  
4150 East Steelton Avenue  
Terre Haute, Indiana 47805  

Re: 167-41726-00160  
Significant Revision to  
F167-38034-00160  

Dear Mr. Redd:  

Pyrolyx USA Indiana LLC was issued a New Source Construction/Federally Enforceable State Operating Permit (FESOP) No. NSC/F167-38034-00160 on May 18, 2017, for a stationary source manufacturing other basic inorganic chemical, located at 4150 East Steelton Avenue, Terre Haute, Indiana 47805. On July 30, 2019, the Office of Air Quality (OAQ) received an application from the source relating to the construction of a new plant that is exactly similar with the existing permitted shredded rubber pyrolysis plant 1.  

Pursuant to the provisions of 326 IAC 2-8-11.1, these changes to the permit are required to be reviewed in accordance with the Significant Permit Revision procedures of 326 IAC 2-8-11.1/(f). Pursuant to the provisions of 326 IAC 2-8-11.1, a Significant Permit Revision to this permit is hereby approved as described in the attached Technical Support Document (TSD).  

Pursuant to 326 IAC 2-8-11.1, the following emission units are approved for construction at the source:  

Plant 2:  

(a) Twenty (20) natural gas-fired Pyrolysis Ovens identified as oven 21 through oven 40, each approved in 2019 for construction, each with a maximum rated heat input capacity of 2.387 MMBtu per hour and each with maximum capacity of 2.16 tons per batch of shredded rubber charge, with each oven having their own condenser, collectively vented to a desulfurization system (DS-2) for process emissions SO2 control, collectively using a thermal oxidizer (TO-2) for process emissions VOC and HAP control, and combustion emissions exhausting to a flue gas stack and vent stack for each oven identified as U-G-01b through U-G-20b for the flue gas stacks and U-G-21b through U-G-40b for the vent stacks.  

(b) One (1) Desulfurization Removal System, identified as DS-2, approved in 2019 for construction, with maximum flow rate of 447 cfm, and exhausting to thermal oxidizer, TO-2.  

(c) One (1) thermal oxidizer, identified as TO-2, approved in 2019 for construction, with maximum rated heat input capacity of 2.00 MMBtu/hr, exhausting to stack P-G-04.  

(d) One (1) milling line, identified as D-17, approved in 2019 for construction, with a maximum capacity of 1.98 ton per hour carbon black solids, controlled by Baghouse D-17 and exhausting to stack P-D-17.
(e) One (1) pellet dryer, identified as D-20, approved in 2019 for construction, with a maximum heat input capacity of 5.7 MMBtu per hour, controlled by Baghouse D-20 and exhausting to stack G/D-20.

(f) One (1) housekeeping dust collection system #2, identified as D-19, approved in 2019 for construction, and exhausting to stack P-D-19.

(g) One (1) Hopper Storage, identified as D-18, approved in 2019 for construction, using a dust collector as control, and exhausting to stack P-D-18.

(h) One (1) Storage Bin, identified as D-21, approved in 2019 for construction, using a dust collector as control, and exhausting to stack P-D-21.

(i) One (1) Loading Bin, identified as D-22, approved in 2019 for construction, using a dust collector as control, and exhausting to stack P-D-22.

Insignificant Activities:

(j) One (1) emergency diesel generator, identified as EmGen #2, approved in 2019 for construction, with a maximum capacity of 268 HP, using no controls, and exhausting outdoors.

(k) Four (4) pyrolysis oil storage tanks, identified as Tank5 through Tank8, each approved in 2019 for construction, each with a capacity of 34,104 gallons and each maximum product throughput rate of 1,773,408 gallons per year, each using no controls, and each exhausting outdoors.

(l) One (1) cooling tower, identified as Cooling Tower #2, approved in 2019 for construction, with a maximum circulation rate of 84.32 gallons per minute, using no controls, and exhausting outdoors.

(m) Twelve (12) small natural gas comfort heaters, approved in 2019 for construction, with a combined heat input capacity of 0.768 MMBtu per hour, each using no controls, and each exhausting outdoors.

(n) One (1) natural gas fired water heater #2, approved in 2019 for construction, with a heat input capacity of 0.13 MMBtu per hour, using no controls, and exhausting outdoors.

Pursuant to 326 IAC 2-8-11.1, this permit shall be revised by incorporating the Significant Permit Revision into the permit.

All other conditions of the permit shall remain unchanged and in effect. Please find attached the entire FESOP as revised. The permit references the below-listed attachments. Since these attachments have been provided in previously issued approvals for this source, IDEM OAQ has not included a copy of these attachments with this revision:

Attachment B: 40 CFR 63, Subpart ZZZZ - National Emission Standards for Hazardous Air Pollutants (NESHAP) for Stationary Reciprocating Internal Combustion Engines

Previously issued approvals for this source containing these attachments are available on the Internet at: http://www.in.gov/ai/appfiles/idem-caats/.

Previously issued approvals for this source are also available via IDEM’s Virtual File Cabinet (VFC.) Please go to: http://www.in.gov/idem/ and enter VFC in the search box. You will then have the option to search for permit documents using a variety of criteria.

A copy of the permit is available on the Internet at: http://www.in.gov/ai/appfiles/idem-caats/. A copy of the permit is also available via IDEM's Virtual File Cabinet (VFC) Please go to: http://www.in.gov/idem/ and enter VFC in the search box. You will then have the option to search for permit documents using a variety of criteria. 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: http://www.in.gov/idem/airquality/2356.htm; and the Citizens' Guide to IDEM on the Internet at: http://www.in.gov/idem/6900.htm.

This decision is subject to the Indiana Administrative Orders and Procedures Act - IC 4-21.5-3-5.

If you have any questions regarding this matter, please contact Aida DeGuzman, 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 4972 or (800) 451-6027, and ask for Aida DeGuzman or (317) 233 4972.

Sincerely,

Josiah K. Balogun, Section Chief
Permits Branch
Office of Air Quality

Attachments: Revised permit and Technical Support Document.

cc: File - Vigo County
Vigo County Health Department
U.S. EPA, Region 5
Compliance and Enforcement Branch
New Source Construction and Federally Enforceable State Operating Permit
OFFICE OF AIR QUALITY

Pyrolyx USA Indiana LLC
4150 East Steelton Avenue
Terre Haute, Indiana 47805

(herein known as the Permittee) is hereby authorized to construct and operate subject to the conditions contained herein, the source described in Section A (Source Summary) of this permit.

The Permittee must comply with all conditions of this permit. Noncompliance with any provisions of this permit is grounds for enforcement action; permit termination, revocation and reissuance, or modification; or denial of a permit renewal application. It shall not be a defense for the Permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit. An emergency does constitute an affirmative defense in an enforcement action provided the Permittee complies with the applicable requirements set forth in Section B, Emergency Provisions.

This permit is issued in accordance with 326 IAC 2 and 40 CFR Part 70 Appendix A and contains the conditions and provisions specified in 326 IAC 2-8 as required by 42 U.S.C. 7401, et. seq. (Clean Air Act as amended by the 1990 Clean Air Act Amendments), 40 CFR Part 70.6, IC 13-15 and IC 13-17.

Indiana statutes from IC 13 and rules from 326 IAC, quoted in conditions in this permit, are those applicable at the time the permit was issued. The issuance or possession of this permit shall not alone constitute a defense against an alleged violation of any law, regulation or standard, except for the requirement to obtain a FESOP under 326 IAC 2-8.

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ATTACHMENT B - 40 CFR 63, Subpart ZZZZ - National Emission Standards for Hazardous Air Pollutants (NESHAP) for Stationary Reciprocating Internal Combustion Engines
SECTION A  SOURCE SUMMARY

This permit 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 through A.3 is descriptive information and does not constitute enforceable conditions. However, the Permittee 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 Permittee to obtain additional permits or seek modification of this permit pursuant to 326 IAC 2, or change other applicable requirements presented in the permit application.

A.1 General Information [326 IAC 2-8-3(b)]

The Permittee owns and operates a stationary other basic inorganic chemical manufacturing - recovered carbon black facility.

Source Address: 4150 East Steelton Avenue, Terre Haute, Indiana 47805
General Source Phone Number: (302) 295-1370
SIC Code: 2895 (Carbon Black)
County Location: Vigo (Harrison Township)
Source Location Status: Nonattainment for SO2 standard
Source Status: Federally Enforceable State Operating Permit Program
Minor Source, under PSD and Emission Offset Rules
Minor Source, Section 112 of the Clean Air Act
1 of 28 Source Categories

A.2 Emission Units and Pollution Control Equipment Summary [326 IAC 2-8-3(c)(3)]

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

Plant 1:

(a) Twenty (20) natural gas-fired Pyrolysis Ovens identified as oven 1 through oven 20, each approved in 2019 for construction, each with a maximum rated heat input capacity of 2.387 MMBtu per hour and each with maximum capacity of 2.16 tons per batch of shredded rubber charge, with each oven having their own condenser, collectively vented to a desulfurization system (DS-1) for process emissions SO2 control, collectively using a thermal oxidizer (TO-1) for process emissions VOC and HAP control, and combustion emissions exhausting to a flue gas stack and vent stack for each oven identified as U-G-01 through U-G-20 for the flue gas stacks and U-G-21 through U-G-40 for the vent stacks.

(b) One (1) Desulfurization Removal System, identified as DS-1, approved in 2019 for construction, with maximum flow rate of 447 cfm, and exhausting to thermal oxidizer, TO-1.

(c) One (1) thermal oxidizer, identified as TO-1, approved in 2019 for construction, with maximum rated heat input capacity of 2.00 MMBtu/hr, exhausting to stack P-G-02.

(d) One (1) milling line, identified as D-07, approved in 2019 for construction, with a maximum capacity of 1.98 ton per hour carbon black solids, controlled by Baghouse D-07, and exhausting to stack P-D-07.

(e) One (1) pellet dryer, identified as D-10, approved in 2019 for construction, with a maximum heat input capacity of 5.7 MMBtu per hour, controlled by Baghouse D-10 and exhausting to stack G/D-10.
Draft

(f) One (1) housekeeping dust collection system, identified as D-09, approved in 2019 for construction, and exhausting to stack P-D-09.

(g) One (1) Hopper Storage, identified as D-08, approved in 2019 for construction, using a dust collector as control, and exhausting to stack P-D-08.

(h) One (1) Storage Bin, identified as D-11, approved in 2019 for construction, using a dust collector as control, and exhausting to stack P-D-11.

(i) One (1) Loading Bin, identified as D-12, approved in 2019 for construction, using a dust collector as control, and exhausting to stack P-D-12.

Plant 2:

(j) Twenty (20) natural gas-fired Pyrolysis Ovens identified as oven 21 through oven 40, each approved in 2019 for construction, each with a maximum rated heat input capacity of 2.387 MMBtu per hour and each with maximum capacity of 2.16 tons per batch of shredded rubber charge, with each oven having their own condenser, collectively vented to a desulfurization system (DS-2) for process emissions SO2 control, collectively using a thermal oxidizer (TO-2) for process emissions VOC and HAP control, and combustion emissions exhausting to a flue gas stack and vent stack for each oven identified as U-G-01b through U-G-20b for the flue gas stacks and U-G-21b through U-G-40b for the vent stacks.

(k) One (1) Desulfurization Removal System, identified as DS-2, approved in 2019 for construction, with maximum flow rate of 447 cfm, and exhausting to thermal oxidizer, TO-2.

(l) One (1) thermal oxidizer, identified as TO-2, approved in 2019 for construction, with maximum rated heat input capacity of 2.00 MMBtu/hr, exhausting to stack P-G-04.

(m) One (1) milling line, identified as D-17, approved in 2019 for construction, with a maximum capacity of 1.98 ton per hour carbon black solids, controlled by Baghouse D-17 and exhausting to stack P-D-17.

(n) One (1) pellet dryer, identified as D-20, approved in 2019 for construction, with a maximum heat input capacity of 5.7 MMBtu per hour, controlled by Baghouse D-20 and exhausting to stack G/D-20.

(o) One (1) housekeeping dust collection system, identified as D-19, approved in 2019 for construction, and exhausting to stack P-D-19.

(p) One (1) Hopper Storage, identified as D-18, approved in 2019 for construction, using a dust collector as control, and exhausting to stack P-D-18.

(q) One (1) Storage Bin, identified as D-21, approved in 2019 for construction, using a dust collector as control, and exhausting to stack P-D-21.

(r) One (1) Loading Bin, identified as D-22, approved in 2019 for construction, using a dust collector as control, and exhausting to stack P-D-22.

A.3 Insignificant Activities [326 IAC 2-7-1(21)][326 IAC 2-8-3(c)(3)(l)]

This stationary source also includes the following insignificant activities:
Plant 1:

(a) One (1) emergency diesel generator, identified as EmGen, approved in 2019 for construction, with a maximum capacity of 268 HP, using no controls, and exhausting outdoors.

(b) Four (4) pyrolysis oil storage tanks, identified as Tank1 through Tank4, each approved in 2019 for construction, each with a capacity of 34,104 gallons and each maximum product throughput rate of 1,773,408 gallons per year, each using no controls, and each exhausting outdoors.

(c) One (1) cooling tower, identified as Cooling Tower #1, approved in 2017 for construction, with a maximum circulation rate of 84.32 gallons per minute, using no controls, and exhausting outdoors.

(d) Twelve (12) small natural gas comfort heaters, approved in 2017 for construction, with a combined heat input capacity of 0.768 MMBtu per hour, each using no controls, and each exhausting outdoors.

(e) One (1) natural gas fired water heater #1, approved in 2017 for construction, with a heat input capacity of 0.13 MMBtu per hour, using no controls, and exhausting indoors.

Plant 2:

(f) One (1) emergency diesel generator, identified as EmGen #2, approved in 2019 for construction, with a maximum capacity of 268 HP, using no controls, and exhausting outdoors.

(g) Four (4) pyrolysis oil storage tanks, identified as Tank5 through Tank8, each approved in 2019 for construction, each with a capacity of 34,104 gallons and each maximum product throughput rate of 1,773,408 gallons per year, each using no controls, and each exhausting outdoors.

(h) One (1) cooling tower, identified as Cooling Tower #2, approved in 2019 for construction, with a maximum circulation rate of 84.32 gallons per minute, using no controls, and exhausting outdoors.

(i) Twelve (12) small natural gas comfort heaters, approved in 2019 for construction, with a combined heat input capacity of 0.768 MMBtu per hour, each using no controls, and each exhausting outdoors.

(j) One (1) natural gas fired water heater #2, approved in 2019 for construction, with a heat input capacity of 0.13 MMBtu per hour, using no controls, and exhausting outdoors.

A.4 FESOP Applicability [326 IAC 2-8-2]

This stationary source, otherwise required to have a Part 70 permit as described in 326 IAC 2-7-2(a), has applied to the Indiana Department of Environmental Management (IDEM), Office of Air Quality (OAQ) for a Federally Enforceable State Operating Permit (FESOP).
SECTION B  GENERAL CONDITIONS

B.1 Definitions [326 IAC 2-8-1]
Terms in this permit 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 2-7) shall prevail.

B.2 Revocation of Permits [326 IAC 2-1.1-9(5)]
Pursuant to 326 IAC 2-1.1-9(5)(Revocation of Permits), the Commissioner may revoke this permit if construction is not commenced within eighteen (18) months after receipt of this approval or if construction is suspended for a continuous period of one (1) year or more.

B.3 Affidavit of Construction [326 IAC 2-5.1-3(h)] [326 IAC 2-5.1-4][326 IAC 2-8]
This document shall also become the approval to operate pursuant to 326 IAC 2-5.1-4 and 326 IAC 2-8 when prior to the start of operation, the following requirements are met:

(a) The attached Affidavit of Construction shall be submitted to the Office of Air Quality (OAQ), verifying that the emission units were constructed as proposed in the application or the permit. The emission units covered in this permit may begin operating on the date the Affidavit of Construction is postmarked or hand delivered to IDEM if constructed as proposed.

(b) If actual construction of the emission units differs from the construction proposed in the application, the source may not begin operation until the permit has been revised pursuant to 326 IAC 2 and an Operation Permit Validation Letter is issued.

(c) The Permittee shall attach the Operation Permit Validation Letter received from the Office of Air Quality (OAQ) to this permit.

B.4 Permit Term [326 IAC 2-8-4(2)][326 IAC 2-1.1-9.5][IC 13-15-3-6(a)]
(a) This permit, F167-38034-00160, is issued for a fixed term of five (5) years from the issuance date of this permit, as determined in accordance with IC 4-21.5-3-5(f) and IC 13-15-5-3. Subsequent revisions, modifications, or amendments of this permit do not affect the expiration date of this permit.

(b) If IDEM, OAQ, upon receiving a timely and complete renewal permit application, fails to issue or deny the permit renewal prior to the expiration date of this permit, this existing permit shall not expire and all terms and conditions shall continue in effect, until the renewal permit has been issued or denied.

B.5 Term of Conditions [326 IAC 2-1.1-9.5]
Notwithstanding the permit term of a permit to construct, a permit to operate, or a permit modification, any condition established in a permit issued pursuant to a permitting program approved in the state implementation plan shall remain in effect until:

(a) the condition is modified in a subsequent permit action pursuant to Title I of the Clean Air Act; or

(b) the emission unit to which the condition pertains permanently ceases operation.

B.6 Enforceability [326 IAC 2-8-6][IC 13-17-12]
Unless otherwise stated, all terms and conditions in this permit, including any provisions designed to limit the source's potential to emit, are enforceable by IDEM, the United States Environmental Protection Agency (U.S. EPA) and by citizens in accordance with the Clean Air Act.
B.7 Severability [326 IAC 2-8-4(4)]

The provisions of this permit are severable; a determination that any portion of this permit is invalid shall not affect the validity of the remainder of the permit.

B.8 Property Rights or Exclusive Privilege [326 IAC 2-8-4(5)(D)]

This permit does not convey any property rights of any sort or any exclusive privilege.

B.9 Duty to Provide Information [326 IAC 2-8-4(5)(E)]

(a) The Permittee shall furnish to IDEM, OAQ, within a reasonable time, any information that IDEM, OAQ may request in writing to determine whether cause exists for modifying, revoking and reissuing, or terminating this permit, or to determine compliance with this permit. Upon request, the Permittee shall also furnish to IDEM, OAQ copies of records required to be kept by this permit.

(b) For information furnished by the Permittee to IDEM, OAQ, the Permittee may include a claim of confidentiality in accordance with 326 IAC 17.1. When furnishing copies of requested records directly to U. S. EPA, the Permittee may assert a claim of confidentiality in accordance with 40 CFR 2, Subpart B.

B.10 Certification [326 IAC 2-8-3(d)][326 IAC 2-8-4(3)(C)(i)][326 IAC 2-8-5(1)]

(a) A certification required by this permit meets the requirements of 326 IAC 2-8-5(a)(1) if:

(1) it contains a certification by an "authorized individual" as defined by 326 IAC 2-1.1-1(1), and

(2) the certification states that, based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate, and complete.

(b) The Permittee may use the attached Certification Form, or its equivalent with each submittal requiring certification. One (1) certification may cover multiple forms in one (1) submittal.

(c) An "authorized individual" is defined at 326 IAC 2-1.1-1(1).

B.11 Annual Compliance Certification [326 IAC 2-8-5(a)(1)]

(a) The Permittee shall annually submit a compliance certification report which addresses the status of the source’s compliance with the terms and conditions contained in this permit, including emission limitations, standards, or work practices. The initial certification shall cover the time period from the date of final permit issuance through December 31 of the same year. All subsequent certifications shall cover the time period from January 1 to December 31 of the previous year, and shall be submitted no later than July 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, Indiana 46204-2251

(b) The annual compliance certification report required by this permit 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.
(c) The annual compliance certification report shall include the following:

1. The appropriate identification of each term or condition of this permit that is the basis of the certification;
2. The compliance status;
3. Whether compliance was continuous or intermittent;
4. The methods used for determining the compliance status of the source, currently and over the reporting period consistent with 326 IAC 2-8-4(3); and
5. Such other facts, as specified in Sections D of this permit, as IDEM, OAQ may require to determine the compliance status of the source.

The submittal by the Permittee does require a certification that meets the requirements of 326 IAC 2-8-5(a)(1) by an "authorized individual" as defined by 326 IAC 2-1.1-1(1).

B.12 Compliance Order Issuance [326 IAC 2-8-5(b)]

IDEM, OAQ may issue a compliance order to this Permittee upon discovery that this permit is in nonconformance with an applicable requirement. The order may require immediate compliance or contain a schedule for expeditious compliance with the applicable requirement.

B.13 Preventive Maintenance Plan [326 IAC 1-6-3][326 IAC 2-8-4(9)]

(a) If required by specific condition(s) in Section D of this permit, the Permittee shall prepare and maintain Preventive Maintenance Plans (PMPs) no later than ninety (90) days after issuance of this permit 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 Permittee’s control, the PMPs cannot be prepared and maintained within the above time frame, the Permittee may extend the date an additional ninety (90) days provided the Permittee 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 PMP extension notification does not require a certification that meets the requirements of 326 IAC 2-8-5(a)(1) by an "authorized individual" as defined by 326 IAC 2-1.1-1(1).

The Permittee 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 Permittee to revise its PMPs whenever lack of proper maintenance causes or is the primary contributor to an exceedance of any limitation on emissions. The PMPs and their submittal do not require a certification that meets the requirements of 326 IAC 2-8-5(a)(1) by an “authorized individual” as defined by 326 IAC 2-1.1-1(1).

(c) To the extent the Permittee is required by 40 CFR Part 60/63 to have an Operation Maintenance, and Monitoring (OMM) Plan for a unit, such Plan is deemed to satisfy the PMP requirements of 326 IAC 1-6-3 for that unit.

B.14 Emergency Provisions [326 IAC 2-8-12]

(a) An emergency, as defined in 326 IAC 2-7-1(12), is not an affirmative defense for an action brought for noncompliance with a federal or state health-based emission limitation except as provided in 326 IAC 2-8-12.

(b) An emergency, as defined in 326 IAC 2-7-1(12), constitutes an affirmative defense to an action brought for noncompliance with a health-based or technology-based emission limitation if the affirmative defense of an emergency is demonstrated through properly signed, contemporaneous operating logs or other relevant evidence that describe the following:

(1) An emergency occurred and the Permittee can, to the extent possible, identify the causes of the emergency;

(2) The permitted facility was at the time being properly operated;

(3) During the period of an emergency, the Permittee took all reasonable steps to minimize levels of emissions that exceeded the emission standards or other requirements in this permit;

(4) For each emergency lasting one (1) hour or more, the Permittee notified IDEM, OAQ within four (4) daytime business hours after the beginning of the emergency, or after the emergency was discovered or reasonably should have been discovered;

   Telephone Number: 1-800-451-6027 (ask for Office of Air Quality, Compliance and Enforcement Branch), or
   Telephone Number: 317-233-0178 (ask for Office of Air Quality, Compliance and Enforcement Branch)
   Facsimile Number: 317-233-6865

(5) For each emergency lasting one (1) hour or more, the Permittee submitted the attached Emergency Occurrence Report Form or its equivalent, either by mail or facsimile 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

   within two (2) working days of the time when emission limitations were exceeded due to the emergency.
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The notice fulfills the requirement of 326 IAC 2-8-4(3)(C)(ii) and must contain the following:

(A) A description of the emergency;

(B) Any steps taken to mitigate the emissions; and

(C) Corrective actions taken.

The notification which shall be submitted by the Permittee does not require a certification that meets the requirements of 326 IAC 2-8-5(a)(1) by an "authorized individual" as defined by 326 IAC 2-1.1-1(1).

(6) The Permittee immediately took all reasonable steps to correct the emergency.

(c) In any enforcement proceeding, the Permittee seeking to establish the occurrence of an emergency has the burden of proof.

(d) This emergency provision supersedes 326 IAC 1-6 (Malfunctions). This permit condition is in addition to any emergency or upset provision contained in any applicable requirement.

(e) The Permittee seeking to establish the occurrence of an emergency shall make records available upon request to ensure that failure to implement a PMP did not cause or contribute to an exceedance of any limitations on emissions. However, IDEM, OAQ may require that the Preventive Maintenance Plans required under 326 IAC 2-8-3(c)(6) be revised in response to an emergency.

(f) Failure to notify IDEM, OAQ by telephone or facsimile of an emergency lasting more than one (1) hour in accordance with (b)(4) and (5) of this condition shall constitute a violation of 326 IAC 2-8 and any other applicable rules.

(g) Operations may continue during an emergency only if the following conditions are met:

(1) If the emergency situation causes a deviation from a technology-based limit, the Permittee may continue to operate the affected emitting facilities during the emergency provided the Permittee immediately takes all reasonable steps to correct the emergency and minimize emissions.

(2) If an emergency situation causes a deviation from a health-based limit, the Permittee may not continue to operate the affected emissions facilities unless:

(A) The Permittee immediately takes all reasonable steps to correct the emergency situation and to minimize emissions; and

(B) Continued operation of the facilities is necessary to prevent imminent injury to persons, severe damage to equipment, substantial loss of capital investment, or loss of product or raw material of substantial economic value.

Any operations shall continue no longer than the minimum time required to prevent the situations identified in (g)(2)(B) of this condition.
B.15 Prior Permits Superseded [326 IAC 2-1.1-9.5]

(a) All terms and conditions of permits established prior to F167-38034-00160 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 permit.

B.16 Termination of Right to Operate [326 IAC 2-8-9][326 IAC 2-8-3(h)]

The Permittee's right to operate this source terminates with the expiration of this permit unless a timely and complete renewal application is submitted at least nine (9) months prior to the date of expiration of the source's existing permit, consistent with 326 IAC 2-8-3(h) and 326 IAC 2-8-9.

B.17 Permit Modification, Reopening, Revocation and Reissuance, or Termination [326 IAC 2-8-4(5)(C)][326 IAC 2-8-7(a)][326 IAC 2-8-8]

(a) This permit may be modified, reopened, revoked and reissued, or terminated for cause. The filing of a request by the Permittee for a Federally Enforceable State Operating Permit modification, revocation and reissuance, or termination, or of a notification of planned changes or anticipated noncompliance does not stay any condition of this permit. [326 IAC 2-8-4(5)(C)] The notification by the Permittee does require a certification that meets the requirements of 326 IAC 2-8-5(a)(1) by an "authorized individual" as defined by 326 IAC 2-1.1-1(1).

(b) This permit shall be reopened and revised under any of the circumstances listed in IC 13-15-7-2 or if IDEM, OAQ determines any of the following:

(1) That this permit contains a material mistake.

(2) That inaccurate statements were made in establishing the emissions standards or other terms or conditions.

(3) That this permit must be revised or revoked to assure compliance with an applicable requirement. [326 IAC 2-8-8(a)]

(c) Proceedings by IDEM, OAQ to reopen and revise this permit shall follow the same procedures as apply to initial permit issuance and shall affect only those parts of this permit for which cause to reopen exists. Such reopening and revision shall be made as expeditiously as practicable. [326 IAC 2-8-8(b)]

(d) The reopening and revision of this permit, under 326 IAC 2-8-8(a), shall not be initiated before notice of such intent is provided to the Permittee by IDEM, OAQ at least thirty (30) days in advance of the date this permit is to be reopened, except that IDEM, OAQ may provide a shorter time period in the case of an emergency. [326 IAC 2-8-8(c)]

B.18 Permit Renewal [326 IAC 2-8-3(h)]

(a) The application for renewal shall be submitted using the application form or forms prescribed by IDEM, OAQ and shall include the information specified in 326 IAC 2-8-3. Such information shall be included in the application for each emission unit at this source, except those emission units included on the trivial or insignificant activities list contained in 326 IAC 2-7-1(21) and 326 IAC 2-7-1(42). The renewal application does require a
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certification that meets the requirements of 326 IAC 2-8-5(a)(1) by an "authorized individual" as defined by 326 IAC 2-1.1-1(1).

Request for renewal shall be submitted to:

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

(b) A timely renewal application is one that is:

(1) Submitted at least nine (9) months prior to the date of the expiration of this permit; and

(2) 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.

(c) If the Permittee submits a timely and complete application for renewal of this permit, the source’s failure to have a permit is not a violation of 326 IAC 2-8 until IDEM, OAQ takes final action on the renewal application, except that this protection shall cease to apply if, subsequent to the completeness determination, the Permittee fails to submit by the deadline specified, pursuant to 326 IAC 2-8-3(g), in writing by IDEM, OAQ any additional information identified as being needed to process the application.

B.19 Permit Amendment or Revision [326 IAC 2-8-10][326 IAC 2-8-11.1]

(a) Permit amendments and revisions are governed by the requirements of 326 IAC 2-8-10 or 326 IAC 2-8-11.1 whenever the Permittee seeks to amend or modify this permit.

(b) Any application requesting an amendment or modification of this permit shall be submitted to:

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

Any such application does require a certification that meets the requirements of 326 IAC 2-8-5(a)(1) by an "authorized individual" as defined by 326 IAC 2-1.1-1(1).

(c) The Permittee may implement administrative amendment changes addressed in the request for an administrative amendment immediately upon submittal of the request. [326 IAC 2-8-10(b)(3)]

B.20 Operational Flexibility [326 IAC 2-8-15][326 IAC 2-8-11.1]

(a) The Permittee may make any change or changes at the source that are described in 326 IAC 2-8-15(b) and (c) without a prior permit revision, if each of the following conditions is met:

(1) The changes are not modifications under any provision of Title I of the Clean Air Act;

(2) Any approval required by 326 IAC 2-8-11.1 has been obtained;
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(3) The changes do not result in emissions which exceed the limitations provided in this permit (whether expressed herein as a rate of emissions or in terms of total emissions);

(4) The Permittee notifies the:

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

and

United States Environmental Protection Agency, Region V
Air and Radiation Division, Regulation Development Branch - Indiana (AR-18J)
77 West Jackson Boulevard
Chicago, Illinois 60604-3590

in advance of the change by written notification at least ten (10) days in advance of the proposed change. The Permittee shall attach every such notice to the Permittee's copy of this permit; and

(5) The Permittee maintains records on-site, on a rolling five (5) year basis, which document all such changes and emission trades that are subject to 326 IAC 2-8-15(b)(1) and (c). The Permittee shall make such records available, upon reasonable request, for public review.

Such records shall consist of all information required to be submitted to IDEM, OAQ in the notices specified in 326 IAC 2-8-15(b)(1) and (c).

(b) Emission Trades [326 IAC 2-8-15(b)]
The Permittee may trade emissions increases and decreases at the source, where the applicable SIP provides for such emission trades without requiring a permit revision, subject to the constraints of Section (a) of this condition and those in 326 IAC 2-8-15(b).

(c) Alternative Operating Scenarios [326 IAC 2-8-15(c)]
The Permittee may make changes at the source within the range of alternative operating scenarios that are described in the terms and conditions of this permit in accordance with 326 IAC 2-8-4(7). No prior notification of IDEM, OAQ or U.S. EPA is required.

(d) Backup fuel switches specifically addressed in, and limited under, Section D of this permit shall not be considered alternative operating scenarios. Therefore, the notification requirements of part (a) of this condition do not apply.

B.21 Source Modification Requirement [326 IAC 2-8-11.1]
A modification, construction, or reconstruction is governed by the requirements of 326 IAC 2.

B.22 Inspection and Entry [326 IAC 2-8-5(a)(2)][IC 13-14-2-2][IC 13-17-3-2][IC 13-30-3-1]
Upon presentation of proper identification cards, credentials, and other documents as may be required by law, and subject to the Permittee’s right under all applicable laws and regulations to assert that the information collected by the agency is confidential and entitled to be treated as such, the Permittee shall allow IDEM, OAQ, U.S. EPA, or an authorized representative to perform the following:
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(a) Enter upon the Permittee's premises where a FESOP source is located, or emissions related activity is conducted, or where records must be kept under the conditions of this permit;

(b) As authorized by the Clean Air Act, IC 13-14-2-2, IC 13-17-3-2, and IC 13-30-3-1, have access to and copy, at reasonable times, any records that must be kept under the conditions of this permit;

(c) As authorized by the Clean Air Act, IC 13-14-2-2, IC 13-17-3-2, and IC 13-30-3-1, inspect, at reasonable times, any facilities, equipment (including monitoring and air pollution control equipment), practices, or operations regulated or required under this permit;

(d) As authorized by the Clean Air Act, IC 13-14-2-2, IC 13-17-3-2, and IC 13-30-3-1, sample or monitor, at reasonable times, substances or parameters for the purpose of assuring compliance with this permit or applicable requirements; and

(e) As authorized by the Clean Air Act, IC 13-14-2-2, IC 13-17-3-2, and IC 13-30-3-1, utilize any photographic, recording, testing, monitoring, or other equipment for the purpose of assuring compliance with this permit or applicable requirements.

B.23 Transfer of Ownership or Operational Control [326 IAC 2-8-10]

(a) The Permittee must comply with the requirements of 326 IAC 2-8-10 whenever the Permittee seeks to change the ownership or operational control of the source and no other change in the permit is necessary.

(b) Any application requesting a change in the ownership or operational control of the source shall contain a written agreement containing a specific date for transfer of permit responsibility, coverage and liability between the current and new Permittee. The application shall be submitted to:

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

Any such application does require a certification that meets the requirements of 326 IAC 2-8-5(a)(1) by an "authorized individual" as defined by 326 IAC 2-1.1-1(1).

(c) The Permittee may implement administrative amendment changes addressed in the request for an administrative amendment immediately upon submittal of the request. [326 IAC 2-8-10(b)(3)]

B.24 Annual Fee Payment [326 IAC 2-7-19] [326 IAC 2-8-4(6)] [326 IAC 2-8-16][326 IAC 2-1.1-7]

(a) The Permittee shall pay annual fees to IDEM, OAQ no later than thirty (30) calendar days of receipt of a billing. Pursuant to 326 IAC 2-7-19(b), if the Permittee does not receive a bill from IDEM, OAQ the applicable fee is due April 1 of each year.

(b) Failure to pay may result in administrative enforcement action or revocation of this permit.

(c) The Permittee may call the following telephone numbers: 1-800-451-6027 or 317-233-4230 (ask for OAQ, Billing, Licensing, and Training Section), to determine the appropriate permit fee.
B.25 Credible Evidence [326 IAC 2-8-4(3)][326 IAC 2-8-5][62 FR 8314] [326 IAC 1-1-6]

For the purpose of submitting compliance certifications or establishing whether or not the Permittee has violated or is in violation of any condition of this permit, nothing in this permit shall preclude the use, including the exclusive use, of any credible evidence or information relevant to whether the Permittee would have been in compliance with the condition of this permit if the appropriate performance or compliance test or procedure had been performed.
SECTION C  SOURCE OPERATION CONDITIONS

Entire Source

Emission Limitations and Standards  [326 IAC 2-8-4(1)]

C.1  Overall Source Limit  [326 IAC 2-8]

The purpose of this permit is to limit this source’s potential to emit to less than major source levels for the purpose of Section 502(a) of the Clean Air Act.

(a) Pursuant to 326 IAC 2-8:

(1) The potential to emit any regulated pollutant, except particulate matter (PM), from the entire source shall be limited to less than one hundred (100) tons per twelve (12) consecutive month period.

(2) The potential to emit any individual hazardous air pollutant (HAP) from the entire source shall be limited to less than ten (10) tons per twelve (12) consecutive month period; and

(3) The potential to emit any combination of HAPs from the entire source shall be limited to less than twenty-five (25) tons per twelve (12) consecutive month period.

(b) Pursuant to 326 IAC 2-2 (PSD), potential to emit particulate matter (PM) from the entire source shall be limited to less than one hundred (100) tons per twelve (12) consecutive month period.

(c) This condition shall include all emission points at this source including those that are insignificant as defined in 326 IAC 2-7-1(21). The source shall be allowed to add insignificant activities not already listed in this permit, provided that the source’s potential to emit does not exceed the above specified limits.

(d) Section D of this permit contains independently enforceable provisions to satisfy this requirement.

C.2  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 permit:

(a) Opacity shall not exceed an average of forty percent (40%) 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.3  Open Burning  [326 IAC 4-1] [IC 13-17-9]

The Permittee shall not open burn any material except as provided in 326 IAC 4-1-3, 326 IAC 4-1-4 or 326 IAC 4-1-6. The previous sentence notwithstanding, the Permittee may open burn in accordance with an open burning approval issued by the Commissioner under 326 IAC 4-1-4.1.
C.4 Incineration [326 IAC 4-2] [326 IAC 9-1-2]
The Permittee shall not operate an incinerator except as provided in 326 IAC 4-2 or in this permit. The Permittee shall not operate a refuse incinerator or refuse burning equipment except as provided in 326 IAC 9-1-2 or in this permit.

C.5 Fugitive Dust Emissions [326 IAC 6-4]
The Permittee 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).

C.6 Asbestos Abatement Projects [326 IAC 14-10] [326 IAC 18] [40 CFR 61, Subpart M]
(a) Notification requirements apply to each owner or operator. If the combined amount of regulated asbestos containing material (RACM) to be stripped, removed or disturbed is at least 260 linear feet on pipes or 160 square feet on other facility components, or at least thirty-five (35) cubic feet on all facility components, then the notification requirements of 326 IAC 14-10-3 are mandatory. All demolition projects require notification whether or not asbestos is present.

(b) The Permittee shall ensure that a written notification is sent on a form provided by the Commissioner at least ten (10) working days before asbestos stripping or removal work or before demolition begins, per 326 IAC 14-10-3, and shall update such notice as necessary, including, but not limited to the following:

(1) When the amount of affected asbestos containing material increases or decreases by at least twenty percent (20%); or

(2) If there is a change in the following:
   (A) Asbestos removal or demolition start date;
   (B) Removal or demolition contractor; or
   (C) Waste disposal site.

(c) The Permittee shall ensure that the notice is postmarked or delivered according to the guidelines set forth in 326 IAC 14-10-3(2).

(d) The notice to be submitted shall include the information enumerated in 326 IAC 14-10-3(3).

All required notifications shall be submitted 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

The notice shall include a signed certification from the owner or operator that the information provided in this notification is correct and that only Indiana licensed workers and project supervisors will be used to implement the asbestos removal project. The notifications do not require a certification that meets the requirements of 326 IAC 2-8-5(a)(1) by an “authorized individual” as defined by 326 IAC 2-1.1-1(1).
(e) Procedures for Asbestos Emission Control
   The Permittee shall comply with the applicable emission control procedures in 326 IAC 14-10-4 and 40 CFR 61.145(c). Per 326 IAC 14-10-1, emission control requirements are applicable for any removal or disturbance of RACM greater than three (3) linear feet on pipes or three (3) square feet on any other facility components or a total of at least 0.75 cubic feet on all facility components.

(f) Demolition and Renovation
   The Permittee shall thoroughly inspect the affected facility or part of the facility where the demolition or renovation will occur for the presence of asbestos pursuant to 40 CFR 61.145(a).

(g) Indiana Licensed Asbestos Inspector
   The Permittee shall comply with 326 IAC 14-10-1(a) that requires the owner or operator, prior to a renovation/demolition, to use an Indiana Licensed Asbestos Inspector to thoroughly inspect the affected portion of the facility for the presence of asbestos.

Testing Requirements [326 IAC 2-8-4(3)]

C.7 Performance Testing [326 IAC 3-6]

(a) For performance testing required by this permit, a test protocol, except as provided elsewhere in this permit, shall be submitted 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

   no later than thirty-five (35) days prior to the intended test date. The protocol submitted by the Permittee does not require a certification that meets the requirements of 326 IAC 2-8-5(a)(1) by an "authorized individual" as defined by 326 IAC 2-1.1-1(1).

(b) The Permittee shall notify IDEM, OAQ of the actual test date at least fourteen (14) days prior to the actual test date. The notification submitted by the Permittee does not require a certification that meets the requirements of 326 IAC 2-8-5(a)(1) by an "authorized individual" as defined by 326 IAC 2-1.1-1(1).

(c) Pursuant to 326 IAC 3-6-4(b), all test reports must be received by IDEM, OAQ not later than forty-five (45) days after the completion of the testing. An extension may be granted by IDEM, OAQ if the Permittee submits to IDEM, OAQ a reasonable written explanation not later than five (5) days prior to the end of the initial forty-five (45) day period.

Compliance Requirements [326 IAC 2-1.1-11]

C.8 Compliance Requirements [326 IAC 2-1.1-11]

   The commissioner may require stack testing, monitoring, or reporting at any time to assure compliance with all applicable requirements by issuing an order under 326 IAC 2-1.1-11. Any monitoring or testing shall be performed in accordance with 326 IAC 3 or other methods approved by the commissioner or the U. S. EPA.

Compliance Monitoring Requirements [326 IAC 2-8-4(1)][326 IAC 2-8-5(a)(1)]

C.9 Compliance Monitoring [326 IAC 2-8-4(3)][326 IAC 2-8-5(a)(1)]

(a) For new units:
Unless otherwise specified in the approval for the new emission unit(s), compliance monitoring for new emission units shall be implemented on and after the date of initial start-up.

(b) For existing units:

Unless otherwise specified in this permit, for all monitoring requirements not already legally required, the Permittee shall be allowed up to ninety (90) days from the date of permit issuance to begin such monitoring. If, due to circumstances beyond the Permittee's control, any monitoring equipment required by this permit cannot be installed and operated no later than ninety (90) days after permit issuance, the Permittee may extend the compliance schedule related to the equipment for an additional ninety (90) days provided the Permittee 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

in writing, prior to the end of the initial ninety (90) day compliance schedule, with full justification of the reasons for the inability to meet this date.

The notification which shall be submitted by the Permittee does require a certification that meets the requirements of 326 IAC 2-8-5(a)(1) by an "authorized individual" as defined by 326 IAC 2-1.1-1(1).

C.10 Instrument Specifications [326 IAC 2-1.1-11] [326 IAC 2-8-4(3)] [326 IAC 2-8-5(1)]

(a) When required by any condition of this permit, an analog instrument used to measure a parameter related to the operation of an air pollution control device shall have a scale such that the expected maximum reading for the normal range shall be no less than twenty percent (20%) of full scale. The analog instrument shall be capable of measuring values outside of the normal range.

(b) The Permittee may request that the IDEM, OAQ approve the use of an instrument that does not meet the above specifications provided the Permittee can demonstrate that an alternative instrument specification will adequately ensure compliance with permit conditions requiring the measurement of the parameters.

Corrective Actions and Response Steps [326 IAC 2-8-4] [326 IAC 2-8-5(a)(1)]

C.11 Risk Management Plan [326 IAC 2-8-4] [40 CFR 68]

If a regulated substance, as defined in 40 CFR 68, is present at a source in more than a threshold quantity, the Permittee must comply with the applicable requirements of 40 CFR 68.

C.12 Response to Excursions or Exceedances [326 IAC 2-8-4] [326 IAC 2-8-5]

Upon detecting an excursion where a response step is required by the D Section or an exceedance of a limitation in this permit:

(a) The Permittee shall take reasonable response steps to restore operation of the emissions unit (including any control device and associated capture system) to its normal or usual manner of operation as expeditiously as practicable in accordance with good air pollution control practices for minimizing excess emissions.

(b) The response shall include minimizing the period of any start-up, shutdown or malfunction. The response may include, but is not limited to, the following:
(1) initial inspection and evaluation;

(2) recording that operations returned or are returning to normal without operator action (such as through response by a computerized distribution control system); or

(3) any necessary follow-up actions to return operation to normal or usual manner of operation.

(c) A determination of whether the Permittee has used acceptable procedures in response to an excursion or exceedance will be based on information available, which may include, but is not limited to, the following:

(1) monitoring results;

(2) review of operation and maintenance procedures and records; and/or

(3) inspection of the control device, associated capture system, and the process.

(d) Failure to take reasonable response steps shall be considered a deviation from the permit.

(e) The Permittee shall record the reasonable response steps taken.

C.13 Actions Related to Noncompliance Demonstrated by a Stack Test [326 IAC 2-8-4][326 IAC 2-8-5]

(a) When the results of a stack test performed in conformance with Section C - Performance Testing, of this permit exceed the level specified in any condition of this permit, the Permittee shall submit a description of its response actions to IDEM, OAQ no later than seventy-five (75) days after the date of the test.

(b) A retest to demonstrate compliance shall be performed no later than one hundred eighty (180) days after the date of the test. Should the Permittee demonstrate to IDEM, OAQ that retesting in one hundred eighty (180) days is not practicable, IDEM, OAQ may extend the retesting deadline.

(c) IDEM, OAQ reserves the authority to take any actions allowed under law in response to noncompliant stack tests.

The response action documents submitted pursuant to this condition do require a certification that meets the requirements of 326 IAC 2-8-5(a)(1) by an "authorized individual" as defined by 326 IAC 2-1.1-1(1).

Record Keeping and Reporting Requirements [326 IAC 2-8-4(3)]

C.14 General Record Keeping Requirements [326 IAC 2-8-4(3)] [326 IAC 2-8-5]

(a) Records of all required monitoring data, reports and support information required by this permit shall be retained for a period of at least five (5) years from the date of monitoring sample, measurement, report, or application. Support information includes the following, where applicable:

(AA) All calibration and maintenance records.

(BB) All original strip chart recordings for continuous monitoring instrumentation.

(CC) Copies of all reports required by the FESOP.

Records of required monitoring information include the following, where applicable:
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(AA) The date, place, as defined in this permit, and time of sampling or measurements.

(BB) The dates analyses were performed.

(CC) The company or entity that performed the analyses.

(DD) The analytical techniques or methods used.

(EE) The results of such analyses.

(FF) The operating conditions as existing at the time of sampling or measurement.

These records shall be physically present or electronically accessible at the source location for a minimum of three (3) years. The records may be stored elsewhere for the remaining two (2) years as long as they are available upon request. If the Commissioner makes a request for records to the Permittee, the Permittee shall furnish the records to the Commissioner within a reasonable time.

(b) Unless otherwise specified in this permit, for all record keeping requirements not already legally required, the Permittee shall be allowed up to ninety (90) days from the date of permit issuance or the date of initial start-up, whichever is later, to begin such record keeping.

C.15 General Reporting Requirements [326 IAC 2-8-4(3)(C)] [326 IAC 2-1.1-11]

(a) The Permittee shall submit the attached Quarterly Deviation and Compliance Monitoring Report or its equivalent. Proper notice submittal under Section B –Emergency Provisions satisfies the reporting requirements of this paragraph. Any deviation from permit requirements, the date(s) of each deviation, the cause of the deviation, and the response steps taken must be reported except that a deviation required to be reported pursuant to an applicable requirement that exists independent of this permit, shall be reported according to the schedule stated in the applicable requirement and does not need to be included in this report. This report shall be submitted not later than thirty (30) days after the end of the reporting period. The Quarterly Deviation and Compliance Monitoring Report shall include a certification that meets the requirements of 326 IAC 2-8-5(a)(1) by an "authorized individual" as defined by 326 IAC 2-1.1-1(1). A deviation is an exceedance of a permit limitation or a failure to comply with a requirement of the permit.

(b) The address for report submittal is:

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

(c) Unless otherwise specified in this permit, any notice, report, or other submission required by this permit 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.

(d) The first report shall cover the period commencing on the date of issuance of this permit or the date of initial start-up, whichever is later, and ending on the last day of the reporting period. Reporting periods are based on calendar years, unless otherwise specified in this permit. For the purpose of this permit, “calendar year” means the twelve (12) month period from January 1 to December 31 inclusive.
Stratospheric Ozone Protection

C.16 Compliance with 40 CFR 82 and 326 IAC 22-1

Pursuant to 40 CFR 82 (Protection of Stratospheric Ozone), Subpart F, except as provided for motor vehicle air conditioners in Subpart B, the Permittee shall comply with applicable standards for recycling and emissions reduction.
SECTION D.1 EMISSIONS UNIT OPERATION CONDITIONS

Emissions Unit Description:

Plant 1:

(a) Twenty (20) natural gas-fired Pyrolysis Ovens, identified as oven 1 through oven 20, each approved in 2019 for construction, each with a maximum rated heat input capacity of 2.387 MMBtu per hour and each with maximum capacity of 2.16 tons per batch of shredded rubber charge, with each oven having their own condenser, collectively vented to a desulfurization system (DS-1) for process emissions SO2 control, collectively using a thermal oxidizer (TO-1) for process emissions VOC and HAP control, and combustion emissions exhausting to a flue gas stack and vent stack for each oven identified as U-G-01 through U-G-20 for the flue gas stacks and U-G-21 through U-G-40 for the vent stacks.

(b) One (1) Desulfurization Removal System, identified as DS-1, approved in 2019 for construction, with maximum flow rate of 447 cfm, and exhausting to thermal oxidizer, TO-1.

(c) One (1) thermal oxidizer, identified as TO-1, approved in 2019 for construction, with maximum rated heat input capacity of 2.00 MMBtu/hr, exhausting to stack P-G-02.

Plant 2:

(j) Twenty (20) natural gas-fired Pyrolysis Ovens identified as oven 21 through oven 40, each approved in 2019 for construction, each with a maximum rated heat input capacity of 2.387 MMBtu per hour and each with maximum capacity of 2.16 tons per batch of shredded rubber charge, with each oven having their own condenser, collectively vented to a desulfurization system (DS-2) for process emissions SO2 control, collectively using a thermal oxidizer (TO-2) for process emissions VOC and HAP control, and combustion emissions exhausting to a flue gas stack and vent stack for each oven identified as U-G-01b through U-G-20b for the flue gas stacks and U-G-21b through U-G-40b for the vent stacks.

(k) One (1) Desulfurization Removal System, identified as DS-2, approved in 2019 for construction, with maximum flow rate of 447 cfm, and exhausting to thermal oxidizer, TO-2.

(l) One (1) thermal oxidizer, identified as TO-2, approved in 2019 for construction, with maximum rated heat input capacity of 2.00 MMBtu/hr, exhausting to stack P-G-04.

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

Emission Limitations and Standards [326 IAC 2-8-4(1)]

D.1.1 PSD, Emission Offset Minor Limits and FESOP Limits [326 IAC 2-2] [326 IAC 2-3] [326 IAC 2-8-4]

In order to render the requirements of 326 IAC 2-2 (PSD) and 326 IAC 2-3 (Emission Offset) not applicable and in order to comply with the requirements of 326 IAC 2-8-4 (FESOP), the Permittee shall comply with the following:

(a) The combined SO2 emissions from Plant 1 Pyrolysis Ovens 1 through 20 (excluding combustion emissions) shall not exceed 10.0 pounds per hour, when exhausting to the Desulfurization Removal System, identified as DS-1.
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(b) The exhausts from each of the Plant 1 Pyrolysis Ovens 1 through 20 shall not bypass the Desulfurization Removal System, identified as DS-1 for more than 100 hours per twelve (12) consecutive month period, with compliance determined at the end of each month.

(c) The combined VOC emissions from Plant 1 Pyrolysis Ovens 1 through 20 (excluding combustion emissions) shall not exceed 10.70 pounds per hour.

(d) The combined CO emissions from Plant 1 Pyrolysis Ovens 1 through 20 (excluding combustion emissions) shall not exceed 5.69 pound per hour.

(e) The combined SO₂ emissions from Plant 2 Pyrolysis Ovens 21 through 40 (excluding combustion emissions) shall not exceed 10.0 pounds per hour, when exhausting to the Desulfurization Removal System, identified as DS-2.

(f) The exhausts from each of the Plant 2 Pyrolysis Ovens 21 through 40 shall not bypass the Desulfurization Removal System, identified as DS-2 for more than 100 hours per twelve (12) consecutive month period, with compliance determined at the end of each month.

(g) The combined VOC emissions from Plant 2 Pyrolysis Ovens 21 through 40 (excluding combustion emissions) shall not exceed 10.70 pounds per hour.

(h) The combined CO emissions from Plant 2 Pyrolysis Ovens 21 through 40 (excluding combustion emissions) shall not exceed 5.69 pound per hour.

(i) NOₓ emissions from the Plant 2 Pyrolysis Ovens 1 through 40 (excluding combustion emissions) shall not exceed 0.30 pound per million British thermal unit (lb/MMBtu) heat input.

Compliance with these limits, combined with the potential to emit SO₂, VOC, CO, and NOₓ from all other emission units at this source shall limit the source-wide potential to emit SO₂, VOC, CO, and NOₓ to less than one-hundred (100) tons per year and renders the requirements of 326 IAC 2-2 (Prevention of Significant Deterioration (PSD)), 326 IAC 2-3 (Emission Offset), 326 IAC 2-7 (Part 70 Permit Program) not applicable to the source.

D.1.2 FESOP Hazardous Air Pollutants Limits [326 IAC 2-8-4]

Pursuant to 326 IAC 2-8-4 (FESOP) and in order to render the requirements of 326 IAC 2-4.1 (Major Sources of Hazardous Air Pollutants (HAP)) not applicable, the Permittee shall comply with the followings:

(a) The combined total HAPs emissions from Plant 1 and Plant 2 Pyrolysis Ovens 1 through 40 (excluding combustion emissions) shall not exceed 21.0 tons per twelve (12) consecutive month period, with compliance determined at the end of each month.

(b) The combined single HAP emissions from Plant 1 and Plant 2 Pyrolysis Ovens 1 through 40 (excluding combustion emissions) shall not exceed 9.0 tons per twelve (12) consecutive month period, with compliance determined at the end of each month.

Compliance with these limits, combined with the potential to emit from all other emission units at the source shall limit the source-wide single HAP and combined HAPs to less than 10 and 25 tons per year, respectively, and render the requirements of 326 IAC 2-7 (Part 70 Permit Program) and 326 IAC 2-4.1 (Major Source of Hazardous Air Pollutants) not applicable and make this source an area source of HAPs.
D.1.3 Volatile Organic Compounds (VOC) Best Available Control Technology (BACT) [326 IAC 8-1-6]

Pursuant to 326 IAC 8-1-6 (New Facilities; General Reduction Requirements) and SPR 167-40941-00160 and SPR 167-41726-00160, the Permittee shall comply with the following BACT:

Plant 1 Pyrolysis Ovens 1 through 20

(a) The Plant 1 Pyrolysis Ovens 1 through 20 shall be controlled by thermal oxidizer identified as TO-1 with a minimum overall control efficiency of 98.75%.

(b) The combined rubber charge through Plant 1, Pyrolysis Ovens 1 through 20 shall not exceed 52,211 tons per twelve consecutive month period.

(c) The combined VOC emissions from the Plant 1 Pyrolysis Ovens 1 through 20 (excluding combustion emissions) shall not exceed 10.70 pounds per hour.

Plant 2 Pyrolysis Ovens 21 through 40

(a) The Plant 2 Pyrolysis Ovens 21 through 40 shall be controlled by thermal oxidizer, identified as TO-2 with a minimum overall control efficiency of 98.75%.

(b) The combined rubber charge through Plant 2, Pyrolysis Ovens 21 through 40 shall not exceed 52,211 tons per twelve consecutive month period.

(c) The combined VOC emissions from the Plant 2 Pyrolysis Ovens 21 through 40 (excluding combustion emissions) shall not exceed 10.70 pounds per hour.

Compliance with the limits in this condition shall satisfy the requirements of 326 IAC 8-1-6.

D.1.4 Particulate Emission Limitations Except Lake County [326 IAC 6.5]

Pursuant to 326 IAC 6.5, Particulate emissions from the forty (40) Pyrolysis Ovens 1 through 40 shall each not exceed seven-hundredths (0.07) gram per dry standard cubic meter (g/dscm) (three-hundredths (0.03) grain per dry standard cubic feet (dscf)).

D.1.5 Preventive Maintenance Plan [326 IAC 2-8-4(9)]

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

Compliance Determination Requirements [326 IAC 2-8-4(1)]

D.1.6 VOC, CO, HAPs, and SO₂ Control

(a) In order to assure compliance with Conditions D.1.1(c), D.1.1(d), D.1.2 and D.1.3(c), the thermal oxidizer, identified as TO-1 for VOC, CO, and HAPs control shall be in operation and control emissions from Plant 1 Pyrolysis Ovens 1 through 20 at all times Pyrolysis Ovens 1 through 20 are in operation.

(b) In order to assure compliance with Conditions D.1.1(g), D.1.1(h), D.1.2 and D.1.3(f), the thermal oxidizer, identified as TO-2 for VOC, CO, and HAPs control shall be in operation and control emissions from Plant 2 Pyrolysis Ovens 21 through 40 at all times Pyrolysis Ovens 21 through 40 are in operation.

(c) In order to assure compliance with Condition D.1.1(a), the Desulfurization Removal System, identified as DS-1 for SO₂ control shall be in operation and control emissions from Plant 1 Pyrolysis Ovens 1 through 20 at all times Pyrolysis Ovens 1 through 20 are in operation, with the allowance of 100 hours per year in bypass, each.
(d) In order to assure compliance with Condition D.1.1(e), the Desulfurization Removal System, identified as DS-2 for SO2 control shall be in operation and control emissions from Plant 2 Pyrolysis Ovens 21 through 40 at all times Pyrolysis Ovens 21 through 40 are in operation, with the allowance of 100 hours per year in bypass, each.

D.1.7 Testing Requirements [326 IAC 2-1.1-11]

(a) Not later than 180 days after the start-up of pyrolysis operations at Plant 1 Pyrolysis Ovens 1 through 20, the Permittee shall perform testing of the Thermal Oxidizer, identified as TO-1 to determine the overall control efficiency (including capture and destruction efficiency), and VOC, CO, and HAPs emissions associated with the Pyrolysis Ovens in order to demonstrate compliance with Conditions D.1.1(c), D.1.1(d), D.1.2, D.1.3(a), and D.1.3(c), utilizing methods approved by the commissioner at least once every 5 years from the date of the most recent valid compliance demonstration. Testing shall be conducted in accordance with the provisions of 326 IAC 3-6 (Source Sampling Procedures). Section C – Performance Testing contains the Permittee’s obligation with regard to the performance testing required by this condition.

(b) Not later than 180 days after the start-up of pyrolysis operations at Plant 1 Pyrolysis Ovens 1 through 20, the Permittee shall perform SO2 testing to determine the uncontrolled emission rate, controlled emission rate, and overall control efficiency of the Desulfurization Removal System, identified as DS-1 in order to demonstrate compliance with Conditions D.1.1(a), utilizing methods approved by the commissioner at least once every 5 years from the date of the most recent valid compliance demonstration. Testing shall be conducted in accordance with the provisions of 326 IAC 3-6 (Source Sampling Procedures). Section C – Performance Testing contains the Permittee’s obligation with regard to the performance testing required by this condition.

(c) Not later than 180 days after the start-up of pyrolysis operations at Plant 2 Pyrolysis Ovens 21 through 40, the Permittee shall perform testing of the Thermal Oxidizer, identified as TO-2 to determine the overall control efficiency (including capture and destruction efficiency), and VOC, CO, and HAPs emissions associated with the Pyrolysis Ovens in order to demonstrate compliance with Conditions D.1.1(g), D.1.1(h), D.1.2, D.1.3(d), and D.1.3(f), utilizing methods approved by the commissioner at least once every 5 years from the date of the most recent valid compliance demonstration. Testing shall be conducted in accordance with the provisions of 326 IAC 3-6 (Source Sampling Procedures). Section C – Performance Testing contains the Permittee’s obligation with regard to the performance testing required by this condition.

(d) Not later than 180 days after the start-up of pyrolysis operations at Plant 2 Pyrolysis Ovens 21 through 40, the Permittee shall perform SO2 testing to determine the uncontrolled emission rate, controlled emission rate, and overall control efficiency of the Desulfurization Removal System, identified as DS-2 in order to demonstrate compliance with Conditions D.1.1(e), utilizing methods approved by the commissioner at least once every 5 years from the date of the most recent valid compliance demonstration. Testing shall be conducted in accordance with the provisions of 326 IAC 3-6 (Source Sampling Procedures). Section C – Performance Testing contains the Permittee’s obligation with regard to the performance testing required by this condition.

D.1.8 Hazardous Air Pollutants HAPs [326 IAC 2-1.11]

To determine the compliance status with Condition D.1.2, the following equation shall be used to determine the HAPs emission limits:

\[
\text{HAPs Emissions, tons/month} = (\text{TrPO, ton/oven} \times nPO \times \text{HAP EF, lb/ton}) \times \frac{1-(\text{CE} \times \text{DE})}{1-(\text{CE} \times \text{DE})}
\]
Where:
TrPO = Throughput/Shredded Rubber Charge Each Pyrolysis Oven, tons/oven
nPO = Number of Pyrolysis Ovens operating during compliance period
EF = HAP emission factor, lb/ton as established during latest stack test
CE = Capture efficiency of the incinerator determined during latest stack test
DE = HAP destruction efficiency of the incinerator determined during latest stack test

Compliance Monitoring Requirements [326 IAC 2-8-4(1)][326 IAC 2-8-5(a)(1)]

D.1.9 Thermal Oxidizer

(a) A continuous monitoring system shall be calibrated, maintained, and operated on each thermal oxidizer (TO-1 and TO-2) for measuring operating temperature. For the purpose of this condition, continuous means no less often than once per fifteen (15) minutes. The output of this system shall be recorded as 3-hour average. From the date of pyrolysis operations start-up until the stack test results are available, the Permittee shall operate the thermal oxidizer at or above the 3-hour average temperature of 1,400°F.

(b) The Permittee shall determine the 3-hour average temperatures from the latest valid stack test that demonstrates compliance with limits in Conditions D.1.1(c), D.1.1(d), D.1.1(g), D.1.1(h), D.1.2, D.1.3(a), D.1.3(c), D.1.3(d), and D.1.3(f).

(c) On and after the date the stack test results are available, the Permittee shall operate the thermal oxidizers at or above the 3-hour average temperatures as observed during the latest compliant stack tests.

(d) If the 3-hour average temperatures fall below the above mentioned 3-hour average temperatures, the Permittee shall take a reasonable response. Section C - Response to Excursions or Exceedances contains the Permittee's obligation with regard to the response steps required by this condition. Failure to take response steps shall be considered a deviation from this permit.

D.1.10 Parametric Monitoring - Thermal Oxidizer

(a) The Permittee shall determine the appropriate duct pressure or fan amperage for the thermal oxidizer from the latest valid stack test that demonstrates compliance with limits in Conditions D.1.1(c), D.1.1(d), D.1.1(g), D.1.1(h), D.1.2, D.1.3(a), D.1.3(c), D.1.3(d), and D.1.3(f).

(b) The duct pressure or fan amperage shall be observed at least once per day when the thermal oxidizer is in operation. On and after the date the stack test results are available, the duct pressure or fan amperage shall be maintained within the normal range as established in latest compliant stack test.

(c) When, for any one reading, the duct pressure or fan amperage is outside the above mentioned range, the Permittee shall take a reasonable response. Section C - Response to Excursions and Exceedances contains the Permittee's obligation with regard to the reasonable response steps required by this condition. A reading that is outside the above mentioned range is not a deviation from this permit. Failure to take response steps shall be considered a deviation from this permit.
D.1.11 Desulfurization Removal System Continuous Parametric Monitoring System (CPMS))

(a) To ensure compliance with Conditions D.1.1(a) and D.1.1(e) and proper operation of the Desulfurization Removal Systems, the following compliance monitoring is required:

1. The Permittee shall monitor the outlet H2S concentration upon start-up of pyrolysis operations at Plant 1 Pyrolysis Ovens 1-20 and shall certify and maintain a continuous H2S monitoring system within 180 days after start-up of pyrolysis operations at Pyrolysis Ovens 1-20.

2. The Permittee shall monitor the outlet H2S concentration upon start-up of pyrolysis operations at Plant 2 Pyrolysis Ovens 21-40 and shall certify and maintain a continuous H2S monitoring system within 180 days after start-up of pyrolysis operations at Pyrolysis Ovens 21-40.

3. The continuous H2S monitoring systems shall be calibrated and operated to measure the outlet H2S concentration of the Desulfurization Removal System, identified as DS-1 serving Plant 1 Pyrolysis Ovens 1 through 20 and Desulfurization Removal System, identified as DS-2 serving Plant 2 Pyrolysis Ovens 21 through 40. The continuous H2S monitoring systems shall be in operation at all times any of the Pyrolysis Ovens 1 through 40 are in operation, except during periods the monitoring system is undergoing quality assurance/quality control checks, repairs, replacement or maintenance or is malfunctioning and during the Bypass Mode. “Continuous” shall mean the collection of at least one measurement of Desulfurization Removal System inlet and outlet H2S concentrations for each 15-minute block period.

4. Relative Accuracy Test Audits (RATAs) must be performed on the monitoring system no less than once every 5 years.

5. Zero and Span calibrations shall be performed no less frequently than once per week. According to the Quality Assurance Procedures of 40 CFR Part 60 Appendix F Section 4.0, any reading in excess of 2.5% of span would require immediate corrective action, any reading greater than 10% of span would be considered out of control.

6. The Permittee shall respond to monitor out of control periods as defined in 40 CFR Part 60, Appendix F, Section 4.3.1.

7. Quarterly Cylinder Gas Audits shall be performed in any quarter where a RATA is not conducted.

(b) The Permittee shall monitor and continuously record the Hydrogen Sulfide (H2S) concentration at the exit of the desulfurization systems, (DS-1 and DS-2) a 24-hour average exit concentration range will be determined during valid performance test. The site shall maintain a 24-hour average H2S concentration range when the pyrolysis processes are in operation.

(c) Continuous Parametric Monitoring System (CPMS) Malfunction

Back-up H2S-gas analyzer procedures are as follows:

1. If the continuous H2S monitoring system is down for more than 5 days, the Permittee shall take daily instantaneous measurements of the outlet H2S concentration of the Desulfurization Removal System using Draeger Tube.
(2) Corrective action shall be taken in the event of an unscheduled monitoring system malfunction.

(3) IDEM, OAQ shall be notified prior to any scheduled monitoring system malfunction that will last longer than one (1) week.

**Record Keeping and Reporting Requirements** [326 IAC 2-8-4(3)]

**D.1.12 Record Keeping Requirement**

(a) To document the compliance status with Condition D.1.2, the Permittee shall maintain monthly records of the single and combined HAP emissions from the Pyrolysis Ovens 1 – 40.

(b) To document the compliance status with Condition D.1.3(b), the Permittee shall maintain monthly records of the combined amount of shredded rubber charge through Plant 1 Pyrolysis Ovens 1 through 20.

(c) To document the compliance status with Condition D.1.3(e), the Permittee shall maintain monthly records of the combined amount of shredded rubber charge through Plant 2 Pyrolysis Ovens 21 through 40.

(d) To document the compliance status with Condition D.1.9, the Permittee shall maintain continuous temperature records for each of the thermal oxidizers and the 3-hour average temperatures used to demonstrate compliance during the most recent compliant stack test.

(e) To document the compliance status with Condition D.1.10, the Permittee shall maintain daily records of the duct pressure or fan amperage for the thermal oxidizer. The Permittee shall include in its daily record when the readings are not taken and the reason for the lack of the readings (e.g. the process did not operate that day).

(f) To document the compliance status with Conditions D.1.1(b), D.1.1(f), and D.1.11, the Permittee shall maintain records in accordance with (1) through (7). Records of all data and operating parameters shall be complete and sufficient to establish compliance with the limits established in Conditions D.1.1(b) and D.1.1(f).

(1) Permittee shall maintain records of the readings of the continuous H2S monitoring system.

(2) All corrective and preventive actions taken.

(3) All maintenance logs, calibration checks, and other required quality assurance activities.

(4) A log of the Plant 1 Pyrolysis Oven 1 through 20 operations, including H2S monitoring system downtime with the following information:

   (A) Date of monitoring system downtime.
   (B) Time of commencement and completion of each downtime.
   (C) Reason for each downtime.
   (D) Nature of system repairs and adjustments.

(5) A log of the Plant 2 Pyrolysis Oven 21 through 40 operations, including H2S monitoring system downtime with the following information:

   (A) Date of monitoring system downtime.
Draft

(B) Time of commencement and completion of each downtime.
(C) Reason for each downtime.
(D) Nature of system repairs and adjustments.

(6) Records of the date and hours that Desulfurization Removal Systems were bypassed.

(7) Records of Desulfurization Removal Systems bed desorptions/regenerations or replacement, which shall include date of desorption or replacement.

(g) Section C - General Record Keeping Requirements contains the Permittee's obligation with regard to the records required by this condition.

D.1.13 Reporting Requirements

A quarterly summary of the information to document the compliance status with Conditions D.1.1(b), D.1.1(f), D.1.2, D.1.3(b), and D.1.3(e) shall be submitted using the reporting forms located at the end of this permit or their equivalent, not later than thirty (30) days after the end of the quarter being reported. Section C - General Reporting contains the Permittee's obligation with regard to the reporting required by this condition. The report does require a certification that meets the requirements of 326 IAC 2-8-5(a)(1) by an "authorized individual" as defined by 326 IAC 2-1.1-1(1).
SECTION D.2 EMISSIONS UNIT OPERATION CONDITIONS

Emissions Unit Description:

Plant 1:

(d) One (1) milling line, identified as D-07, approved in 2019 for construction, with a maximum capacity of 1.98 ton per hour carbon black solids, controlled by Baghouse D-07, and exhausting to stack P-D-07.

(e) One (1) pellet dryer, identified as D-10, approved in 2019 for construction, with a maximum heat input capacity of 5.7 MMBtu per hour, controlled by Baghouse D-10 and exhausting to stack G/D-10.

(f) One (1) housekeeping dust collection system, identified as D-09, approved in 2019 for construction, and exhausting to stack P-D-09.

(g) One (1) Hopper Storage, identified as D-08, approved in 2019 for construction, using a dust collector as control, and exhausting to stack P-D-08.

(h) One (1) Storage Bin, identified as D-11, approved in 2019 for construction, using a dust collector as control, and exhausting to stack P-D-11.

(i) One (1) Loading Bin, identified as D-12, approved in 2019 for construction, using a dust collector as control, and exhausting to stack P-D-12.

Plant 2:

(m) One (1) milling line, identified as D-17, approved in 2019 for construction, with a maximum capacity of 1.98 ton per hour carbon black solids, controlled by Baghouse D-17 and exhausting to stack P-D-17.

(n) One (1) pellet dryer, identified as D-20, approved in 2019 for construction, with a maximum heat input capacity of 5.7 MMBtu per hour, controlled by Baghouse D-20 and exhausting to stack G/D-20.

(o) One (1) housekeeping dust collection system, identified as D-19, approved in 2019 for construction, and exhausting to stack P-D-19.

(p) One (1) Hopper Storage, identified as D-18, approved in 2019 for construction, using a dust collector as control, and exhausting to stack P-D-18.

(q) One (1) Storage Bin, identified as D-21, approved in 2019 for construction, using a dust collector as control, and exhausting to stack P-D-21.

(r) One (1) Loading Bin, identified as D-22, approved in 2019 for construction, using a dust collector as control, and exhausting to stack P-D-22.

(The information describing the process contained in this emissions unit description box is descriptive information and does not constitute enforceable conditions.)
Emission Limitations and Standards [326 IAC 2-8-4(1)]

D.2.1 PSD Minor Limits and FESOP Limits [326 IAC 2-2] [326 IAC 2-8-4]

In order to render the requirements of 326 IAC 2-2 (Prevention of Significant Deterioration (PSD)) and 326 IAC 2-7 (Part 70 Permit Program) not applicable and in order to comply with the requirements of 326 IAC 2-8-4 (FESOP), the Permittee shall comply with the following:

<table>
<thead>
<tr>
<th>Emission Unit</th>
<th>PM, PM10, PM2.5 Emission Limits (lb/hr)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Plant 1</td>
<td></td>
</tr>
<tr>
<td>Milling Line (D-07)</td>
<td>1.61</td>
</tr>
<tr>
<td>Pellet Dryer (D-10)</td>
<td>4.04</td>
</tr>
<tr>
<td>Housekeeping Dust Collection System (D-09)</td>
<td>3.03</td>
</tr>
<tr>
<td>Hopper Storage (D-08)</td>
<td>0.20</td>
</tr>
<tr>
<td>Storage Bin (D-11)</td>
<td>0.20</td>
</tr>
<tr>
<td>Loading Bin (D-12)</td>
<td>0.20</td>
</tr>
<tr>
<td>Plant 2</td>
<td></td>
</tr>
<tr>
<td>Milling Line (D-17)</td>
<td>1.61</td>
</tr>
<tr>
<td>Pellet Dryer (D-20)</td>
<td>4.04</td>
</tr>
<tr>
<td>Housekeeping Dust Collection System (D-19)</td>
<td>3.03</td>
</tr>
<tr>
<td>Hopper Storage (D-18)</td>
<td>0.20</td>
</tr>
<tr>
<td>Storage Bin (D-21)</td>
<td>0.20</td>
</tr>
<tr>
<td>Loading Bin (D-22)</td>
<td>0.20</td>
</tr>
</tbody>
</table>

Compliance with these limits, combined with the potential to emit PM, PM10, and PM2.5 from all other emission units at this source shall limit the source-wide potential to emit of PM, PM10, and PM2.5 to less than one-hundred (100) tons per year, and shall render the requirements of 326 IAC 2-2 (PSD), and 326 IAC 2-7 (Part 70 Permit Program) not applicable.

D.2.2 Particulate Emission Limitations Except Lake County [326 IAC 6.5]

Pursuant to 326 IAC 6.5, particulate emissions from Plant 1 Milling Line 1 (D-07), Hopper storage (D-08), Storage Bin (D-11), Loading Bin (D-12), Pellet Dryer 1 (D-10), Housekeeping Dust Collection (D-09), and Plant 2 Milling Line 1 (D-17), Hopper storage (D-18), Storage Bin (D-21), Loading Bin (D-22), Pellet Dryer 1 (D-20), and Housekeeping Dust Collection (D-19), shall each not exceed seven-hundredths (0.07) gram per dry standard cubic meter (g/dscm) (three-hundredths (0.03) grain per dry standard cubic feet (dscf)).

D.2.3 Preventive Maintenance Plan [326 IAC 2-8-4(9)]

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

Compliance Determination Requirements [326 IAC 2-8-4(1)]

D.2.4 Particulate Control

In order to ensure compliance with Condition D.2.1 and D.2.2, the dust collectors for particulate control shall be in operation and control emissions from the Milling Line 1 (D-07), Hopper storage (D-08), Storage Bin (D-11), Loading Bin (D-12), Pellet Dryer 1 (D-10) and Housekeeping Dust Collection (D-09), at all times these units are in operation.

In the event that bag failure is observed in a multi-compartment baghouse, if operations will
continue for ten (10) days or more after the failure is observed before the failed units will be repaired or replaced, the Permittee shall promptly notify the IDEM, OAQ of the expected date the failed units will be repaired or replaced. The notification shall also include the status of the applicable compliance monitoring parameters with respect to normal, and the results of any response actions taken up to the time of notification.

D.2.5 Testing Requirements [326 IAC 2-1.1-11]

(a) Not later than 180 days after the start-up of Plant 1 milling line (D-07), pellet dryer (D-10), and housekeeping dust collection system (D-09), the Permittee shall perform PM, PM10 and PM2.5 testing of the baghouses associated with these emission units in order to demonstrate compliance with Condition D.2.1, utilizing methods approved by the commissioner at least once every 5 years from the date of the most recent valid compliance demonstration. Testing shall be conducted in accordance with the provisions of 326 IAC 3-6 (Source Sampling Procedures). Section C – Performance Testing contains the Permittee’s obligation with regard to the performance testing required by this condition. PM10 and PM2.5 includes filterable and condensable PM.

(b) Not later than 180 days after the start-up of Plant 2 milling line (D-17), pellet dryer (D-20), and housekeeping dust collection system (D-19), the Permittee shall perform PM, PM10 and PM2.5 testing of the baghouses associated with these emission units in order to demonstrate compliance with Condition D.2.1, utilizing methods approved by the commissioner at least once every 5 years from the date of the most recent valid compliance demonstration. Testing shall be conducted in accordance with the provisions of 326 IAC 3-6 (Source Sampling Procedures). Section C – Performance Testing contains the Permittee’s obligation with regard to the performance testing required by this condition. PM10 and PM2.5 includes filterable and condensable PM.

Compliance Monitoring Requirements  [326 IAC 2-8-4(1)][326 IAC 2-8-5(a)(1)]

D.2.6 Visible Emissions Notations

(a) Visible emission notations of dust collector stack exhausts (P-D-07, G/D-10, P-D-09, P-D-08, P-D-11, P-D-12, P-D-17, G/D-20, P-D-19, P-D-18, P-D-21 and P-D-22) shall be performed once per day during normal daylight operations. A trained employee shall record whether emissions are normal or abnormal.

(b) For processes operated continuously, "normal" means those conditions prevailing, or expected to prevail, eighty percent (80%) of the time the process is in operation, not counting start-up or shutdown time.

(c) In the case of batch or discontinuous operations, readings shall be taken during that part of the operation that would normally be expected to cause the greatest emissions.

(d) A trained employee is an employee who has worked at the plant at least one (1) month and has been trained in the appearance and characteristics of normal visible emissions for that specific process.

(e) If abnormal emissions are observed, the Permittee shall take a reasonable response. Section C – Response to Excursions and Exceedances contains the Permittee’s obligation with regard to the reasonable response steps required by this condition. Failure to take response steps shall be considered a deviation from this permit.
Record Keeping and Reporting Requirements  [326 IAC 2-8-4(3)]

D.2.7 Record Keeping Requirement

(a) To document the compliance status with Condition D.2.6, the Permittee shall maintain records of daily visible emission notations of the baghouse(s) stack exhausts. The Permittee shall include in its daily record when a visible emission notation is not taken and the reason for the lack of visible emission notation (e.g. the process did not operate that day).

(b) Section C - General Record Keeping Requirements contains the Permittee's obligation with regard to the records required by this condition.
SECTION D.3  EMISSIONS UNIT OPERATION CONDITIONS

**Emissions Unit Description:**

Insignificant Activities:

**Plant 1:**

(a) One (1) emergency diesel generator, identified as EmGen #1, approved in 2019 for construction, with a maximum capacity of 268 HP, using no controls, and exhausting outdoors.

(c) One (1) cooling tower, identified as cooling tower, approved in 2017 for construction, with a maximum circulation rate of 84.32 gallons per minute, using no controls, and exhausting outdoors.

(e) One (1) natural gas fired water heater, approved in 2017 for construction, with a heat input capacity of 0.13 MMBtu per hour, using no controls, and exhausting outdoors.

**Plant 2:**

(f) One (1) emergency diesel generator, identified as EmGen #2, approved in 2019 for construction, with a maximum capacity of 268 HP, using no controls, and exhausting outdoors.

(h) One (1) cooling tower, identified as Cooling Tower #2, approved in 2019 for construction, with a maximum circulation rate of 84.32 gallons per minute, using no controls, and exhausting outdoors.

(j) One (1) natural gas fired water heater #2, approved in 2019 for construction, with a heat input capacity of 0.13 MMBtu per hour, using no controls, and exhausting outdoors.

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

**Emission Limitations and Standards [326 IAC 2-8-4(1)]**

**D.3.1 Particulate Emission Limitations Except Lake County [326 IAC 6.5]**

Pursuant to 326 IAC 6.5, Particulate emissions from the emergency diesel generators, identified as EmGen #1, EmGen #2, cooling tower, identified as Cooling Tower #1, and cooling tower, identified as Cooling Tower #2, shall each not exceed seven-hundredths (0.07) gram per dry standard cubic meter (g/dscm) (three-hundredths (0.03) grain per dry standard cubic feet (dscf)).

**D.3.2 Particulate Emission Limitations for Sources of Indirect Heating [326 IAC 6-2-4]**

Pursuant to 326 IAC 6-2-4 (Particulate Emission Limitations for Sources of Indirect Heating), the particulate emissions from Water Heater #1 and Water Heater #2 shall each not exceed 0.6 pound per MMBtu (lb/MMBtu).

**D.3.3 Preventive Maintenance Plan [326 IAC 2-8-4(9)]**

A Preventive Maintenance Plan is required for these facilities and any control devices. Section B - Preventive Maintenance Plan contains the Permittee’s obligation with regard to the preventive maintenance plan required by this condition.
### SECTION E.1 NSPS

**Emissions Unit Description:**

**Plant 1:**

(a) One (1) emergency diesel generator, identified as EmGen #1, approved in 2019 for construction, with a maximum capacity of 268 HP, using no controls, and exhausting outdoors.

**Plant 2:**

(f) One (1) emergency diesel generator, identified as EmGen #2, approved in 2019 for construction, with a maximum capacity of 268 HP, using no controls, and exhausting outdoors.

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

### New Source Performance Standards (NSPS) Requirements [326 IAC 2-8-4(1)]

#### 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 Permittee 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 units listed above, except as otherwise specified in 40 CFR Part 60, Subpart III. |
| (b) | Pursuant to 40 CFR 60.4, the Permittee 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

#### E.1.2 New Source Performance Standard for Stationary Compression Ignition Internal Combustion Engines NSPS [326 IAC 12] [40 CFR Part 60, Subpart III]

The Permittee shall comply with the following provisions of 40 CFR Part 60, Subpart III (included as Attachment A to the operating permit), which are incorporated by reference as 326 IAC 12, for the emission units listed above.

**Emergency Diesel Generators:**

1. 40 CFR 60.4200(a)(2)(i) and (c)
2. 40 CFR 60.4205(b)
3. 40 CFR 60.4206
4. 40 CFR 60.4207(a)
5. 40 CFR 60.4208(f), (g), and (h)
6. 40 CFR 60.4209(a)
7. 40 CFR 60.4211(f)
8. 40 CFR 60.4214(b)
9. 40 CFR 60.4218
10. 40 CFR 60.4219
Draft

(11) Table 5 to Subpart III of Part 60
(12) Table 8 to Subpart III of Part 60
SECTION E.2

Emission Unit Description:

Plant 1:

(a) One (1) emergency diesel generator, identified as EmGen #1, approved in 2019 for construction, with a maximum capacity of 268 HP, using no controls, and exhausting outdoors.

Plant 2:

(f) One (1) emergency diesel generator, identified as EmGen #2, approved in 2019 for construction, with a maximum capacity of 268 HP, using no controls, and exhausting outdoors.

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

National Emission Standards for Hazardous Air Pollutants (NESHAP) Requirements


(a) Pursuant to 40 CFR 63.1 the Permittee shall comply with the provisions of 40 CFR Part 63, Subpart A – General Provisions, which are incorporated by reference as 326 IAC 20-1, for the emission unit(s) listed above, except as otherwise specified in 40 CFR Part 63, Subpart ZZZZ.

(b) Pursuant to 40 CFR 63.10, the Permittee 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 IG CN 1003
Indianapolis, Indiana 46204-2251

E.2.2 National Emission Standards for Hazardous Air Pollutants (NESHAP) for Stationary Reciprocating Internal Combustion Engines NESHAP [40 CFR Part 63, Subpart ZZZZ] [326 IAC 20-82]

The Permittee shall comply with the following provisions of 40 CFR Part 63, Subpart ZZZZ (included as Attachment B to the operating permit), which are incorporated by reference as 326 IAC 20-82, for the emission unit(s) listed above:

(1) 40 CFR 63.6580
(2) 40 CFR 63.6585
(3) 40 CFR 63.6590(a)(2)(iii) and (c)(1)
(4) 40 CFR 63.6595(a)(7)
(5) 40 CFR 63.6665
(6) 40 CFR 63.6670
(7) 40 CFR 63.6675
INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF AIR QUALITY
COMPLIANCE AND ENFORCEMENT BRANCH

FEDERALLY ENFORCEABLE STATE OPERATING PERMIT (FESOP)
CERTIFICATION

Source Name: Pyrolyx USA Indiana LLC
Source Address: 4150 East Steelton Avenue, Terre Haute, Indiana 47805
FESOP Permit No.: F167-38034-00160

This certification shall be included when submitting monitoring, testing reports/results or other documents as required by this permit.

Please check what document is being certified:

- [ ] Annual Compliance Certification Letter
- [ ] Test Result (specify): ________________________________
- [ ] Report (specify): ________________________________
- [ ] Notification (specify): ________________________________
- [ ] Affidavit (specify): ________________________________
- [ ] Other (specify): ________________________________

I certify that, based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate, and complete.

Signature: ____________________________________________
Printed Name: _________________________________________
Title/Position: _________________________________________
Date: _______________________________________________
FEDERALLY ENFORCEABLE STATE OPERATING PERMIT (FESOP)
EMERGENCY OCCURRENCE REPORT

Source Name: Pyrolyx USA Indiana LLC
Source Address: 4150 East Steelton Avenue, Terre Haute, Indiana 47805
FESOP Permit No.: F167-38034-00160

This form consists of 2 pages

<table>
<thead>
<tr>
<th>□ This is an emergency as defined in 326 IAC 2-7-1(12)</th>
</tr>
</thead>
<tbody>
<tr>
<td>• The Permittee must notify the Office of Air Quality (OAQ), within four (4) daytime business hours (1-800-451-6027 or 317-233-0178, ask for Compliance Section); and</td>
</tr>
<tr>
<td>• The Permittee must submit notice in writing or by facsimile within two (2) working days (Facsimile Number: 317-233-6865), and follow the other requirements of 326 IAC 2-8-12</td>
</tr>
</tbody>
</table>

If any of the following are not applicable, mark N/A

<table>
<thead>
<tr>
<th>Facility/Equipment/Operation:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Control Equipment:</td>
</tr>
<tr>
<td>Permit Condition or Operation Limitation in Permit:</td>
</tr>
<tr>
<td>Description of the Emergency:</td>
</tr>
<tr>
<td>Describe the cause of the Emergency:</td>
</tr>
<tr>
<td>Date/Time Emergency started:</td>
</tr>
<tr>
<td>----------------------------</td>
</tr>
<tr>
<td>Date/Time Emergency was corrected:</td>
</tr>
<tr>
<td>Was the facility being properly operated at the time of the emergency?</td>
</tr>
<tr>
<td>Describe:</td>
</tr>
<tr>
<td>Type of Pollutants Emitted: TSP, PM-10, SO₂, VOC, NOₓ, CO, Pb, other:</td>
</tr>
<tr>
<td>Estimated amount of pollutant(s) emitted during emergency:</td>
</tr>
<tr>
<td>Describe the steps taken to mitigate the problem:</td>
</tr>
<tr>
<td>Describe the corrective actions/response steps taken:</td>
</tr>
<tr>
<td>Describe the measures taken to minimize emissions:</td>
</tr>
<tr>
<td>If applicable, describe the reasons why continued operation of the facilities are necessary to prevent imminent injury to persons, severe damage to equipment, substantial loss of capital investment, or loss of product or raw materials of substantial economic value:</td>
</tr>
</tbody>
</table>

Form Completed by: ________________________________
Title / Position: ________________________________
Date: ________________________________
Phone: ________________________________
## FESOP Quarterly Report

**Source Name:** Pyrolyx USA Indiana LLC  
**Source Address:** 4150 East Steelton Avenue, Terre Haute, Indiana 47805  
**FESOP Permit No.:** F167-38034-00160  
**Facility:** Plant 1 Pyrolysis Ovens (Oven 1 through Oven 20)  
**Parameter:** Shredded Rubber Charge  
**Limit:** The combined rubber charge through Plant 1 Pyrolysis Ovens 1 through 20 shall not exceed 52,211 tons of shredded rubber charge per twelve (12) consecutive month period

<table>
<thead>
<tr>
<th>QUARTER :</th>
<th>YEAR:</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Month</th>
<th>Column 1</th>
<th>Column 2</th>
<th>Column 1 + Column 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rubber Charge This Month</td>
<td>Rubber Charge Previous 11 Months</td>
<td>Rubber Charge 12 Month Total</td>
<td></td>
</tr>
</tbody>
</table>

- [ ] No deviation occurred in this quarter.
- [ ] Deviation/s occurred in this quarter.  
  Deviation has been reported on: ________________________________

Submitted by: ________________________________

Title / Position: ________________________________

Signature: ________________________________

Date: ________________________________

Phone: ________________________________
INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF AIR QUALITY
COMPLIANCE AND ENFORCEMENT BRANCH

FESOP Quarterly Report

Source Name: Pyrolyx USA Indiana LLC  
Source Address: 4150 East Steelton Avenue, Terre Haute, Indiana 47805  
FESOP Permit No.: F167-38034-00160  
Facility: Plant 2 Pyrolysis Ovens (Oven 21 through Oven 40)  
Parameter: Shredded Rubber Charge  
Limit: The combined rubber charge through Plant 2 Pyrolysis Ovens 21 through 40 shall not exceed 52,211 tons of shredded rubber charge per twelve (12) consecutive month period

| QUARTER : | YEAR: |___________________________ |

<table>
<thead>
<tr>
<th>Month</th>
<th>Column 1</th>
<th>Column 2</th>
<th>Column 1 + Column 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rubber Charge This Month</td>
<td>Rubber Charge Previous 11 Months</td>
<td>Rubber Charge 12 Month Total</td>
<td></td>
</tr>
</tbody>
</table>

- □ No deviation occurred in this quarter.
- □ Deviation/s occurred in this quarter.
  Deviation has been reported on:___________________________

Submitted by: _________________________________________
Title / Position: _________________________________________
Signature: _________________________________________
Date:  _________________________________________
**Indiana Department of Environmental Management**  
**Office of Air Quality**  
**Compliance and Enforcement Branch**

**FESOP Quarterly Report**

Source Name: Pyrolyx USA Indiana LLC  
Source Address: 4150 East Steelton Avenue, Terre Haute, Indiana 47805  
FESOP Permit No.: F167-38034-00160  
Facility: Desulfurization Removal System, identified as DS-1 for Plant 1 Pyrolysis Ovens 1 through Oven 20  
Parameter: Bypass Hours Desulfurization Removal System  
Limit: Bypass limit of maximum of 100 hours per twelve (12) consecutive month period, with compliance determined at the end of each month.

<table>
<thead>
<tr>
<th>QUARTER :</th>
<th>YEAR:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Month/Date</td>
<td>No. Hours Bypass This Month</td>
</tr>
<tr>
<td>☐</td>
<td>No deviation occurred in this quarter.</td>
</tr>
<tr>
<td>☐</td>
<td>Deviation/s occurred in this quarter. Deviation has been reported on:</td>
</tr>
</tbody>
</table>

Submitted by: ________________________________  
Title / Position: ________________________________  
Signature: ________________________________  
Date: ________________________________  
Phone: ________________________________
### FESOP Quarterly Report

**Source Name:** Pyrolyx USA Indiana LLC  
**Source Address:** 4150 East Steelton Avenue, Terre Haute, Indiana 47805  
**FESOP Permit No.:** F167-38034-00160  
**Facility:** Desulfurization Removal System, identified as DS-2 for Plant 2 Pyrolysis Ovens 21 through Oven 40  
**Parameter:** Bypass Hours Desulfurization Removal System  
**Limit:** Bypass limit of maximum of 100 hours per twelve (12) consecutive month period, with compliance determined at the end of each month.

<table>
<thead>
<tr>
<th>QUARTER</th>
<th>YEAR</th>
</tr>
</thead>
<tbody>
<tr>
<td>Month/Date</td>
<td>No. Hours Bypass This Month</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

- □ No deviation occurred in this quarter.
- □ Deviation/s occurred in this quarter.  
  Deviation has been reported on:

**Submitted by:** ________________________________  
**Title / Position:** ________________________________  
**Signature:** ________________________________  
**Date:** ________________________________  
**Phone:** ________________________________
INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF AIR QUALITY
COMPLIANCE AND ENFORCEMENT BRANCH

FESOP Quarterly Report

Source Name: Pyrolyx USA Indiana LLC
Source Address: 4150 East Steelton Avenue, Terre Haute, Indiana 47805
FESOP Permit No.: F167-38034-00160
Facility: Pyrolysis Ovens (Oven 1 through Oven 40)
Parameter: Hazardous Air Pollutants
Limit: Combined total HAPs shall not exceed 21.0 tons per twelve (12) consecutive month period, with compliance determined at the end of each month. Combined single HAP shall not exceed 9.0 tons per twelve (12) consecutive month period, with compliance determined at the end of each month.

<table>
<thead>
<tr>
<th>QUARTER</th>
<th>YEAR</th>
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<tbody>
<tr>
<td>Month</td>
<td>Pyrolysis Ovens (Ovens 1-40)</td>
</tr>
<tr>
<td></td>
<td>Highest Single HAP This Month</td>
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<td>Deviation/s occurred in this quarter. Deviation has been reported on:</td>
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<td>Submitted by:</td>
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<tr>
<td>Date:</td>
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</tr>
<tr>
<td>Phone:</td>
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</tbody>
</table>
## INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
### OFFICE OF AIR QUALITY
#### COMPLIANCE AND ENFORCEMENT BRANCH
### FEDERALLY ENFORCEABLE STATE OPERATING PERMIT (FESOP)
#### QUARTERLY DEVIATION AND COMPLIANCE MONITORING REPORT

Source Name: Pyrolyx USA Indiana LLC  
Source Address: 4150 East Steelton Avenue, Terre Haute, Indiana 47805  
FESOP Permit No.: F167-38034-00160

<table>
<thead>
<tr>
<th>Months: ___________ to ____________ Year: ______________</th>
</tr>
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</table>

This report shall be submitted quarterly based on a calendar year. Proper notice submittal under Section B –Emergency Provisions satisfies the reporting requirements of paragraph (a) of Section C-General Reporting. Any deviation from the requirements of this permit, the date(s) of each deviation, the probable cause of the deviation, and the response steps taken must be reported. A deviation required to be reported pursuant to an applicable requirement that exists independent of the permit, shall be reported according to the schedule stated in the applicable requirement and does not need to be included in this report. Additional pages may be attached if necessary. If no deviations occurred, please specify in the box marked "No deviations occurred this reporting period".

- [ ] NO DEVIATIONS OCCURRED THIS REPORTING PERIOD.
- [ ] THE FOLLOWING DEVIATIONS OCCURRED THIS REPORTING PERIOD

<table>
<thead>
<tr>
<th>Permit Requirement (specify permit condition #)</th>
<th>Date of Deviation:</th>
<th>Duration of Deviation:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of Deviations:</td>
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<tr>
<td>Probable Cause of Deviation:</td>
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<tr>
<td>Response Steps Taken:</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Permit Requirement (specify permit condition #)</th>
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</tr>
</thead>
<tbody>
<tr>
<td>Number of Deviations:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Probable Cause of Deviation:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Response Steps Taken:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Permit Requirement (specify permit condition #)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>--------------------------------------------------</td>
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<td></td>
</tr>
<tr>
<td>Date of Deviation:</td>
<td>Duration of Deviation:</td>
<td></td>
</tr>
<tr>
<td>Number of Deviations:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Probable Cause of Deviation:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Response Steps Taken:</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Permit Requirement (specify permit condition #)</th>
</tr>
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<tbody>
<tr>
<td>Date of Deviation:</td>
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</tr>
<tr>
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</tr>
</tbody>
</table>

<table>
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</tr>
<tr>
<td>Probable Cause of Deviation:</td>
</tr>
<tr>
<td>Response Steps Taken:</td>
</tr>
</tbody>
</table>

Form Completed by:____________________________________________________

Title / Position:_____________________________________________________

Date:______________________________________________________________

Phone: ____________________________________________________________
Indiana Department of Environmental Management
Office of Air Quality

Technical Support Document (TSD) for a Significant Permit Revision to a Federally Enforceable State Operating Permit (FESOP)

Source Description and Location

<table>
<thead>
<tr>
<th>Source Name:</th>
<th>Pyrolyx USA Indiana LLC</th>
</tr>
</thead>
<tbody>
<tr>
<td>Source Location:</td>
<td>4150 East Steelton Avenue, Terre Haute, IN 47805</td>
</tr>
<tr>
<td>County:</td>
<td>Vigo (Harrison Township)</td>
</tr>
<tr>
<td>SIC Code:</td>
<td>2895 (Carbon Black)</td>
</tr>
<tr>
<td>Operation Permit No.:</td>
<td>F 167-38034-00160</td>
</tr>
<tr>
<td>Operation Permit Issuance Date:</td>
<td>May 18, 2017</td>
</tr>
<tr>
<td>Significant Permit Revision No.:</td>
<td>167-41726-00160</td>
</tr>
<tr>
<td>Permit Reviewer:</td>
<td>Aida DeGuzman</td>
</tr>
</tbody>
</table>

Existing Approvals

The source was issued New Source Construction and FESOP No. 167-38034-00160 on May 18, 2017. The source has since received the following approval:

<table>
<thead>
<tr>
<th>Permit Type</th>
<th>Permit Number</th>
<th>Issuance Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Significant Permit Revision</td>
<td>167-40941-00160</td>
<td>May 9, 2019</td>
</tr>
</tbody>
</table>

County Attainment Status

The source is located in Vigo County (Harrison Township).

<table>
<thead>
<tr>
<th>Pollutant</th>
<th>Designation</th>
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</thead>
<tbody>
<tr>
<td>SO₂</td>
<td>Non-attainment effective October 4, 2013, for the Fayette and Harrison Twp. Better than national standards for the remainder of the county.</td>
</tr>
<tr>
<td>CO</td>
<td>Unclassifiable or attainment effective November 15, 1990.</td>
</tr>
<tr>
<td>O₃</td>
<td>Unclassifiable or attainment effective July 20, 2012, for the 2008 8-hour ozone standard.³</td>
</tr>
<tr>
<td>PM₂.₅</td>
<td>Unclassifiable or attainment effective April 15, 2015, for the 2012 annual PM₂.₅ standard.</td>
</tr>
<tr>
<td>PM₁₀</td>
<td>Unclassifiable effective November 15, 1990.</td>
</tr>
<tr>
<td>NO₂</td>
<td>Unclassifiable or attainment effective January 29, 2012, for the 2010 NO₂ standard.</td>
</tr>
<tr>
<td>Pb</td>
<td>Unclassifiable or attainment effective December 31, 2011 for the 2008 lead standard.</td>
</tr>
</tbody>
</table>

³Unclassifiable or attainment effective October 18, 2000, for the 1-hour ozone standard which was revoked effective June 15, 2005.

(a) Ozone Standards
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. Vigo County has been designated as attainment or unclassifiable for ozone. Therefore, VOC and NOₓ emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2.

(b) PM₂.₅
Vigo County has been classified as attainment for PM₂.₅. Therefore, direct PM₂.₅, SO₂, and NOₓ emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2.
(c) SO\textsubscript{2}  
U.S. EPA, in the Federal Register Notice 78 FR 47191 dated August 5, 2013, designated Vigo County, Harrison Township as nonattainment for SO\textsubscript{2}. Therefore, SO\textsubscript{2} emissions were reviewed pursuant to the requirements of Emission Offset, 326 IAC 2-3.

(d) Other Criteria Pollutants  
Vigo County has been classified as attainment or unclassifiable in Indiana for all the other criteria pollutants (PM, PM10 and CO). Therefore, these emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2.

**Fugitive Emissions**

Since this source is classified as a carbon black plant (furnace process) it is considered one (1) of the twenty-eight (28) listed source categories, as specified in 326 IAC 2-2-1(ff)(1), 326 IAC 2-3-2(g), or 326 IAC 2-7-1(22)(B). Therefore, fugitive emissions are counted toward the determination of PSD, Emission Offset, and Part 70 Permit applicability.

The fugitive emissions of hazardous air pollutants (HAP) are counted toward the determination of Part 70 Permit 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_4g18.pdf](http://www.supremecourt.gov/opinions/13pdf/12-1146_4g18.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.
Source Status - Existing Source

The table below summarizes the potential to emit of the entire source, prior to the proposed revision, after consideration of all enforceable limits established in the effective permits. 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.

<table>
<thead>
<tr>
<th>Source-Wide Emissions Prior to Revision (ton/year)</th>
</tr>
</thead>
<tbody>
<tr>
<td>PM\textsuperscript{1}</td>
</tr>
<tr>
<td>--------------------------------------------------</td>
</tr>
<tr>
<td>Total PTE of Entire Source Including Fugitives</td>
</tr>
<tr>
<td>Title V Major Source Thresholds</td>
</tr>
<tr>
<td>PSD Major Source Thresholds (1 of 28)</td>
</tr>
</tbody>
</table>

\textsuperscript{1}Under the Part 70 Permit program (40 CFR 70), PM\textsubscript{10} and PM\textsubscript{2.5}, not particulate matter (PM), are each considered as a "regulated air pollutant."

\textsuperscript{2}PM\textsubscript{2.5} listed is direct PM\textsubscript{2.5}.

\textsuperscript{3}Single highest source-wide HAP

*Fugitive HAP emissions are always included in the source-wide emissions.

(a) This existing source is not a major stationary source, under PSD (326 IAC 2-2), because no PSD regulated pollutant, is emitted at a rate of 100 tons per year or more, and it is one of the twenty-eight (28) listed source categories, as specified in 326 IAC 2-2-1(ff)(1).

(b) This existing source is not a major stationary source under Emission Offset (326 IAC 2-3) because no nonattainment regulated pollutant, SO\textsubscript{2} is emitted at a rate of 100 tons per year or more.

(c) This existing source is not a major source of HAP, as defined in 40 CFR 63.2, because HAP emissions are less than ten (10) tons per year for any single HAP and less than twenty-five (25) tons per year of a combination of HAPs.

(d) These emissions are based on the TSD of SPR No. 167-40941-00160, issued on May 9, 2019.

Description of Proposed Revision

The Office of Air Quality (OAQ) has reviewed an application, submitted by Pyrolyx USA Indiana, LLC on July 31, 2019, relating to the proposed expansion of the carbon black production facility in Terre Haute, Indiana. Pyrolyx is proposing to construct another plant that is exactly similar with the existing permitted shredded rubber pyrolysis plant 1.

The following is a list of the new emission units and pollution control devices:

Plant 2:

(a) Twenty (20) natural gas-fired Pyrolysis Ovens identified as oven 21 through oven 40, each approved in 2019 for construction, each with a maximum rated heat input capacity of 2.387 MMBtu per hour and each with maximum capacity of 2.16 tons per batch of
shredded rubber charge, with each oven having their own condenser, collectively vented to a desulfurization system (DS-2) for process emissions SO2 control, collectively using a thermal oxidizer (TO-2) for process emissions VOC and HAP control, and combustion emissions exhausting to a flue gas stack and vent stack for each oven identified as U-G-01b through U-G-20b for the flue gas stacks and U-G-21b through U-G-40b for the vent stacks.

(b) One (1) Desulfurization Removal System, identified as DS-2, approved in 2019 for construction, with maximum flow rate of 447 cfm, and exhausting to thermal oxidizer, TO-2.

(c) One (1) thermal oxidizer, identified as TO-2, approved in 2019 for construction, with maximum rated heat input capacity of 2.00 MMBtu/hr, exhausting to stack P-G-04.

(d) One (1) milling line, identified as D-17, approved in 2019 for construction, with a maximum capacity of 1.98 ton per hour carbon black solids, controlled by Baghouse D-17 and exhausting to stack P-D-17.

(e) One (1) pellet dryer, identified as D-20, approved in 2019 for construction, with a maximum heat input capacity of 5.7 MMBtu per hour, controlled by Baghouse D-20 and exhausting to stack G/D-20.

(f) One (1) housekeeping dust collection system #2, identified as D-19, approved in 2019 for construction, and exhausting to stack P-D-19.

(g) One (1) Hopper Storage, identified as D-18, approved in 2019 for construction, using a dust collector as control, and exhausting to stack P-D-18.

(h) One (1) Storage Bin, identified as D-21, approved in 2019 for construction, using a dust collector as control, and exhausting to stack P-D-21.

(i) One (1) Loading Bin, identified as D-22, approved in 2019 for construction, using a dust collector as control, and exhausting to stack P-D-22.

Insignificant Activities:

(j) One (1) emergency diesel generator, identified as EmGen #2, approved in 2019 for construction, with a maximum capacity of 268 HP, using no controls, and exhausting outdoors.

(k) Four (4) pyrolysis oil storage tanks, identified as Tank5 through Tank8, each approved in 2019 for construction, each with a capacity of 34,104 gallons and each maximum product throughput rate of 1,773,408 gallons per year, each using no controls, and each exhausting outdoors.

(l) One (1) cooling tower, identified as Cooling Tower #2, approved in 2019 for construction, with a maximum circulation rate of 84.32 gallons per minute, using no controls, and exhausting outdoors.

(m) Twelve (12) small natural gas comfort heaters, approved in 2019 for construction, with a combined heat input capacity of 0.768 MMBtu per hour, each using no controls, and each exhausting outdoors.

(n) One (1) natural gas fired water heater #2, approved in 2019 for construction, with a heat input capacity of 0.13 MMBtu per hour, using no controls, and exhausting outdoors.
Enforcement Issues

There are no pending enforcement actions related to this revision.

Emission Calculations

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

Permit Level Determination – FESOP Significant Permit Revision

The following table is used to determine the appropriate permit level under 326 IAC 2-8-11.1 (Permit Revisions). This table reflects the PTE before controls of the proposed revision. 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.

<table>
<thead>
<tr>
<th>Process / Emission Unit</th>
<th>PM</th>
<th>PM$_{10}$</th>
<th>PM$_{2.5}$</th>
<th>SO$_2$</th>
<th>NO$_x$</th>
<th>VOC</th>
<th>CO</th>
<th>Single HAP$^2$</th>
<th>Total HAPs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Plant 2</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pyrolysis Ovens</td>
<td>0.22</td>
<td>0.89</td>
<td>0.89</td>
<td>396.46</td>
<td>27.43</td>
<td>3,748.7</td>
<td>83.01</td>
<td>235.99 (Hexane)</td>
<td>345.11</td>
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<tr>
<td>Milling Line</td>
<td>176.8</td>
<td>176.84</td>
<td>176.8</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
</tr>
<tr>
<td>Hopper storage</td>
<td>22.11</td>
<td>22.11</td>
<td>22.11</td>
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<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
</tr>
<tr>
<td>Storage Bin</td>
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<td>22.11</td>
<td>22.11</td>
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<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
</tr>
<tr>
<td>Loading Bin</td>
<td>22.11</td>
<td>22.11</td>
<td>22.11</td>
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<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
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</tr>
<tr>
<td>Pellet Dryer</td>
<td>441.95</td>
<td>441.95</td>
<td>441.95</td>
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<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
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</tr>
<tr>
<td>Housekeeping dust</td>
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<td>331.5</td>
<td>331.5</td>
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<td>0.0</td>
<td>0.0</td>
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<td></td>
<td></td>
<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td>NG Combustion</td>
<td>0.46</td>
<td>1.84</td>
<td>1.84</td>
<td>0.15</td>
<td>10.25</td>
<td>1.34</td>
<td>20.3</td>
<td>0.44 (Hexane)</td>
<td>0.46</td>
</tr>
<tr>
<td>Emergency Generator</td>
<td>0.15</td>
<td>0.15</td>
<td>0.15</td>
<td>0.14</td>
<td>2.08</td>
<td>0.17</td>
<td>0.45</td>
<td>0.0</td>
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<td>Tanks</td>
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<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.10</td>
<td>0.0</td>
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<tr>
<td>Cooling Tower</td>
<td>0.44</td>
<td>0.28</td>
<td>1.89E-03</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
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<td>0.0</td>
</tr>
<tr>
<td>Paved Roads</td>
<td>2.27</td>
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<td>0.11</td>
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<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
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</tr>
<tr>
<td>Total Before Controls</td>
<td>1,020.1</td>
<td>1,020.2</td>
<td>1,019.6</td>
<td>396.8</td>
<td>39.76</td>
<td>3,750.3</td>
<td>103.8</td>
<td>236.4 (Hexane)</td>
<td>345.6</td>
</tr>
</tbody>
</table>

$^1$PM$_{2.5}$ listed is direct PM$_{2.5}$.
$^2$Single highest HAP.

Appendix A of this TSD reflects the detailed potential emissions of the proposed revision.

No existing units are affected or debottlenecked by the proposed expansion.
<table>
<thead>
<tr>
<th>Process / Emission Unit</th>
<th>PM</th>
<th>PM$_{10}$</th>
<th>PM$_{2.5}$$^1$</th>
<th>SO$_2$</th>
<th>NO$_x$</th>
<th>VOC</th>
<th>CO</th>
<th>Single HAP$^2$</th>
<th>Total HAPs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pyrolysis Ovens</td>
<td>0.22</td>
<td>0.89</td>
<td>0.89</td>
<td>90.0</td>
<td>54.87</td>
<td>75.0</td>
<td>62.3</td>
<td>8.5 (Hexane)</td>
<td>24</td>
</tr>
<tr>
<td>Milling Line</td>
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<td>15.91</td>
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<td>0.0</td>
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</tr>
<tr>
<td>Hopper Storage</td>
<td>1.99</td>
<td>1.99</td>
<td>1.99</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
</tr>
<tr>
<td>Storage Silo</td>
<td>1.99</td>
<td>1.99</td>
<td>1.99</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
</tr>
</tbody>
</table>

Appendix A of this TSD reflects the detailed potential emissions of the proposed revision.

Pursuant to 326 IAC 2-8-11.1(f)(1)(A), this FESOP is being revised through a FESOP Significant Permit Revision because the proposed revision is not an Administrative Amendment or Minor Permit revision and the proposed revision is subject to 326 IAC 8-1-6.

Pursuant to 326 IAC 2-8-11.1(f)(1)(E), this FESOP is being revised through a FESOP Significant Permit Revision because the proposed revision is not an Administrative Amendment or Minor Permit revision and the proposed revision involves the construction of new emission units with potential to emit greater than or equal to twenty-five (25) tons per year of at least one (1) regulated pollutant (PM, PM10, or direct PM2.5, SO2, NOx, VOC).

Pursuant to 326 IAC 2-8-11.1(f)(1)(G), this FESOP is being revised through a FESOP Significant Permit Revision because the proposed revision is not an Administrative Amendment or Minor Permit revision and the proposed revision has a potential to emit greater than or equal to ten (10) tons per year of a single HAP and/or twenty-five (25) tons per year of any combination of HAPs.

Pursuant to 326 IAC 2-8-11.1(f)(1)(H), this FESOP is being revised through a FESOP Significant Permit Revision because the proposed revision is not an Administrative Amendment or Minor Permit revision and the proposed revision has a potential to emit greater than or equal to one hundred (100) tons per year of carbon monoxide (CO).

The table below summarizes the after issuance source-wide potential to emit, reflecting all limits, of the emission units. Any control equipment is considered federally enforceable only after issuance of the revision, and only to the extent that the effect of the control equipment is made practically enforceable in the permit. 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.
<table>
<thead>
<tr>
<th>Process / Emission Unit</th>
<th>PM</th>
<th>PM$_{10}$</th>
<th>PM$_{2.5}$</th>
<th>SO$_2$</th>
<th>NO$_X$</th>
<th>VOC</th>
<th>CO</th>
<th>Single HAP$^2$</th>
<th>Total HAPs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Loading Silo</td>
<td>1.99</td>
<td>1.99</td>
<td>1.99</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
</tr>
<tr>
<td>Pellet Dryer</td>
<td>39.78</td>
<td>39.78</td>
<td>39.78</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
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</tr>
<tr>
<td>Housekeeping dust</td>
<td>29.83</td>
<td>29.83</td>
<td>29.83</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
</tr>
<tr>
<td>collection</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>NG Combustion</td>
<td>0.46</td>
<td>1.84</td>
<td>1.84</td>
<td>0.15</td>
<td>24.2</td>
<td>1.33</td>
<td>20.3</td>
<td>0.44 (Hexane)</td>
<td>0.46</td>
</tr>
<tr>
<td>Emergency Generator</td>
<td>0.45</td>
<td>0.45</td>
<td>0.45</td>
<td>0.14</td>
<td>2.08</td>
<td>0.17</td>
<td>0.45</td>
<td>0.0</td>
<td>0.0</td>
</tr>
<tr>
<td>Tanks</td>
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<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
</tr>
<tr>
<td>Cooling Tower</td>
<td>0.44</td>
<td>0.44</td>
<td>0.44</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
</tr>
<tr>
<td>Paved Roads</td>
<td>2.27</td>
<td>0.45</td>
<td>0.11</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
</tr>
<tr>
<td>Total PTE of Entire</td>
<td>95.03</td>
<td>95.27</td>
<td>94.92</td>
<td>90.28</td>
<td>81.14</td>
<td>76.52</td>
<td>83.03</td>
<td>8.84 (Hexane)</td>
<td>21.5</td>
</tr>
<tr>
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</tr>
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<td>100</td>
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<td>10</td>
<td>25</td>
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<td>PSD Major Source</td>
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<td>100</td>
<td>100</td>
<td>100</td>
<td>100</td>
<td>--</td>
<td>--</td>
</tr>
</tbody>
</table>

1 Under the Part 70 Permit program (40 CFR 70), PM$_{10}$ and PM$_{2.5}$, not particulate matter (PM), are each considered as a "regulated air pollutant."
2 PM$_{2.5}$ listed is direct PM$_{2.5}$.
3 Single highest source-wide HAP
4 Fugitive HAP emissions are always included in the source-wide emissions.
PTE includes fugitive emissions since the source is 1 of the 28 listed sources.

---

<table>
<thead>
<tr>
<th>Process / Emission Unit</th>
<th>PM</th>
<th>PM$_{10}$</th>
<th>PM$_{2.5}$</th>
<th>SO$_2$</th>
<th>NO$_X$</th>
<th>VOC</th>
<th>CO</th>
<th>Single HAP$^2$</th>
<th>Total HAPs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Twenty (20) Pyrolysis Ovens</td>
<td>0.22</td>
<td>0.89</td>
<td>0.89</td>
<td>48.33</td>
<td>27.43</td>
<td>46.86</td>
<td>24.90</td>
<td>9.0$^4$ (Hexane)</td>
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</tr>
<tr>
<td>Milling Line</td>
<td>0.08</td>
<td>0.08</td>
<td>0.08</td>
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<td>0.0</td>
<td>0.0</td>
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</tr>
<tr>
<td>Hopper storage</td>
<td>0.88</td>
<td>0.88</td>
<td>0.88</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
</tr>
<tr>
<td>Storage Silo</td>
<td>0.88</td>
<td>0.88</td>
<td>0.88</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
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</tr>
<tr>
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<td>0.88</td>
<td>0.88</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
</tr>
<tr>
<td>Pellet Dryer</td>
<td>17.68</td>
<td>17.68</td>
<td>17.68</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
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</tr>
<tr>
<td>Housekeeping dust</td>
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<td>13.26</td>
<td>13.26</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
</tr>
<tr>
<td>collection</td>
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<td></td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>NG Combustion</td>
<td>0.46</td>
<td>1.84</td>
<td>1.84</td>
<td>0.15</td>
<td>10.25</td>
<td>1.33</td>
<td>20.3</td>
<td>0.44 (Hexane)</td>
<td>0.46</td>
</tr>
<tr>
<td>Emergency Generator</td>
<td>0.15</td>
<td>0.15</td>
<td>0.15</td>
<td>0.14</td>
<td>2.08</td>
<td>0.17</td>
<td>0.45</td>
<td>0.0</td>
<td>0.0</td>
</tr>
<tr>
<td>Tanks</td>
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<td>0.0</td>
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</tr>
<tr>
<td>Cooling Tower</td>
<td>0.44</td>
<td>0.28</td>
<td>1.89E-03</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
</tr>
<tr>
<td>Paved Roads</td>
<td>2.27</td>
<td>0.45</td>
<td>0.11</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
</tr>
<tr>
<td>Twenty (20) Pyrolysis Ovens</td>
<td>0.22</td>
<td>0.89</td>
<td>0.89</td>
<td>48.33</td>
<td>27.43</td>
<td>46.86</td>
<td>24.90</td>
<td>9.0$^4$ (Hexane)</td>
<td>21$^4$</td>
</tr>
</tbody>
</table>

4 Fugitive HAP emissions are always included in the source-wide emissions.
### Source-Wide Emissions After Issuance (ton/year) (ton/year) (ton/year)

<table>
<thead>
<tr>
<th>Process / Emission Unit</th>
<th>PM</th>
<th>PM$_{10}$</th>
<th>PM$_{2.5}$</th>
<th>SO$_2$</th>
<th>NO$_X$</th>
<th>VOC</th>
<th>CO</th>
<th>Single HAP$^2$</th>
<th>Total HAPs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Milling Line</td>
<td>7.07</td>
<td>7.07</td>
<td>7.07</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
</tr>
<tr>
<td>Hopper storage</td>
<td>0.88</td>
<td>0.88</td>
<td>0.88</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
</tr>
<tr>
<td>Storage Silo</td>
<td>0.88</td>
<td>0.88</td>
<td>0.88</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
</tr>
<tr>
<td>Loading Silo</td>
<td>0.88</td>
<td>0.88</td>
<td>0.88</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
</tr>
<tr>
<td>Pellet Dryer</td>
<td>17.68</td>
<td>17.68</td>
<td>17.68</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
</tr>
<tr>
<td>Housekeeping dust collection</td>
<td>13.26</td>
<td>13.26</td>
<td>13.26</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
</tr>
<tr>
<td>NG Combustion</td>
<td>0.46</td>
<td>1.84</td>
<td>1.84</td>
<td>0.15</td>
<td>10.25</td>
<td>1.33</td>
<td>20.3</td>
<td>0.44 (Hexane)</td>
<td>0.46</td>
</tr>
<tr>
<td>Emergency Generator</td>
<td>0.15</td>
<td>0.15</td>
<td>0.15</td>
<td>0.14</td>
<td>2.08</td>
<td>0.17</td>
<td>0.45</td>
<td>0.0</td>
<td>0.0</td>
</tr>
<tr>
<td>Tanks</td>
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<td>0.05</td>
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</tr>
<tr>
<td>Cooling Tower</td>
<td>0.44</td>
<td>0.28</td>
<td>1.89E-03</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
</tr>
<tr>
<td>Paved Roads</td>
<td>2.27</td>
<td>0.45</td>
<td>0.11</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.0</td>
<td>0.0</td>
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</tr>
<tr>
<td><strong>Total PTE of Entire Source</strong></td>
<td><strong>88.4</strong></td>
<td><strong>88.6</strong></td>
<td><strong>87.3</strong></td>
<td><strong>97.2</strong></td>
<td><strong>79.52</strong></td>
<td><strong>96.82</strong></td>
<td><strong>91.35</strong></td>
<td><strong>9.88 (Hexane)</strong></td>
<td><strong>21.92</strong></td>
</tr>
</tbody>
</table>

1 Under the Part 70 Permit program (40 CFR 70), PM$_{10}$ and PM$_{2.5}$, not particulate matter (PM), are each considered as a "regulated air pollutant."

2 PM$_{2.5}$ listed is direct PM$_{2.5}$.

3 Single highest source-wide HAP

4 HAP Combined Limits for all 40 Pyrolysis Ovens

Fugitive HAP emissions are always included in the source-wide emissions.

PTE includes fugitive emissions since the source is 1 of the 28 listed sources.

---

Appendix A of this TSD reflects the detailed potential to emit of the entire source after issuance.

(a) **FESOP Status**  
This revision to an existing Title V minor stationary source will not change the minor status, because the potential to emit criteria pollutants, from the entire source will still be limited to less than the Title V major source threshold levels. Therefore, the source is subject to the provisions of 326 IAC 2-8 (FESOP) and is an area source under Section 112 of the Clean Air Act (CAA).

(b) **This existing Title V minor stationary source will continue to be minor under 326 IAC 2-7 because the potential to emit criteria pollutants and HAPs from the entire source will continue to be less than or limited to less than the Title V major source threshold levels. Therefore, the source is subject to the provisions of 326 IAC 2-8 (FESOP) and is an area source under Section 112 of the Clean Air Act (CAA).**

(c) **This existing minor PSD stationary source will continue to be minor under 326 IAC 2-2 because the potential to emit of all PSD regulated pollutants from the entire source will continue to be limited to less than the PSD major source thresholds. Therefore, pursuant to 326 IAC 2-2, the PSD requirements do not apply.**
(d) This existing minor Emission Offset stationary source will continue to be minor under 326 IAC 2-3 because SO2 potential to emit will continue to be limited to less than the Emission Offset major source threshold levels. Therefore, pursuant to 326 IAC 2-3, the Emission Offset requirements do not apply.

**Federal Rule Applicability Determination**

Due to the proposed revision, federal rule applicability has been reviewed as follows:

**New Source Performance Standards (NSPS):**

(a) The requirements of the New Source Performance Standard for Commercial and Industrial Solid Waste Incineration Units, 40 CFR 60, Subpart CCCC and 326 IAC 12, are not included for the proposed Pyrolysis Ovens 21 through Oven 40, because these ovens do not meet the definition of incinerator.

(b) The requirements of the New Source Performance Standard for Municipal Waste Combustors for Which Construction Is Commenced After December 20, 1989 and On or Before September 20, 1994, 40 CFR 60, Subpart Ea and 326 IAC 12, are not included for the proposed Pyrolysis Ovens 21 through Oven 40 because pyrolysis/combustion units that are an integrated part of a plastics/rubber recycling unit (as defined in 40 CFR 60.51a) are specifically not subject to this subpart if the owner or operator of the plastics/rubber recycling unit keeps records of the weight of plastics, rubber, and/or rubber tires processed on a calendar quarter basis, pursuant to 40 CFR 60.51a(k).

*Note: The source is required to keep records of the rubber charge to avoid the applicability of 326 IAC 2-2 (PSD), 326 IAC 2-3 (Emission Offset, and 326 IAC 2-7 (Part 70 Permit Program), which will serve the purpose for non-applicability of this NSPS, 40 CFR 60, Subpart Ea.*

(c) The requirements of the New Source Performance Standard for Large Municipal Waste Combustors for Which Construction is Commenced After September 20, 1994 or for Which Modification or Reconstruction is Commenced After June 19, 1996, 40 CFR 60, Subpart Eb and 326 IAC 12, are not included for the proposed Pyrolysis Ovens identified as Oven 21 through Oven 40, because pyrolysis/combustion units that are an integrated part of a plastics/rubber recycling unit are specifically not subject to this subpart if the owner or operator of the plastics/rubber recycling unit keeps records of the weight of plastics, rubber, and/or rubber tires processed on a calendar quarter basis, pursuant to 40 CFR 60.50b(m).

*Note: The source is required to keep records of the rubber charge to avoid the applicability of 326 IAC 2-2 (PSD), 326 IAC 2-3 (Emission Offset, and 326 IAC 2-7 (Part 70 Permit Program), which will serve the purpose for non-applicability of this NSPS, 40 CFR 60, Subpart Eb.*

(d) The requirements of the New Source Performance Standard for Small Municipal Waste Combustion Units for Which Construction is Commenced After August 30, 1999 or for Which Modification or Reconstruction is Commenced After June 6, 2001, 40 CFR 60, SubpartAAAA and 326 IAC 12, are not included for the proposed Pyrolysis Ovens identified as Oven 21 through Oven 40, because they are rubber recycling units are specifically not subject to this subpart if the following requirements are met, pursuant to 40 CFR 60.1020(h):

1. Your pyrolysis/combustion unit is an integrated part of a plastics/rubber recycling unit as defined under “Definitions” (§60.1465).

2. You record the weights, each quarter, of plastics, rubber, and rubber tires processed.
Note: The source is required to keep records of the rubber charge to avoid the applicability of 326 IAC 2-2 (PSD), 326 IAC 2-3 (Emission Offset, and 326 IAC 2-7 (Part 70 Permit Program), which will serve the purpose for non-applicability of this NSPS, 40 CFR 60, Subpart AAAA.

(e) The requirements of the New Source Performance Standard for Other Solid Waste Incineration Units for Which Construction is Commenced After December 9, 2004, or for Which Modification or Reconstruction is Commenced on or After June 16, 2006, 40 CFR 60, Subpart EEEE and 326 IAC 12, are not included for the proposed Pyrolysis Ovens identified as Oven 21 through Oven 40, because these ovens do not meet the definition of incinerator.

(f) The requirements of the New Source Performance Standard for Volatile Organic Liquid Storage Vessels, 40 CFR 60, Subpart Kb and 326 IAC 12, are not included in the permit for the proposed four (4) Pyrolysis Oil Storage Tanks, identified as Tank5 through Tank8, each with a capacity of 34,104 gallons, because they will be storing pyrolysis oil that has a vapor pressure of 12 kPa which is less than 15.0 kPa.

(g) The requirements of the New Source Performance Standard for Small Industrial-Commercial-Institutional Steam Generating Units, 40 CFR 60, Subpart Dc and 326 IAC 12, are not included in the permit for the proposed water heater, because its heat input capacity is less than ten (10) MMBtu per hour.

(h) The proposed emergency diesel generator, identified as EmGen #2 is subject to the New Source Performance Standards for Stationary Compression Ignition Internal Combustion Engines, 40 CFR 60, Subpart III and 326 IAC 12, because this generator is a stationary compression ignition (CI) internal combustion engines (ICE) that was constructed after July 11, 2005 and was manufactured after April 1, 2006. The unit subject to this rule includes the following:

1. One (1) emergency diesel generator, identified as EmGen #2, approved in 2019 for construction, with a maximum capacity of 268 HP, using no controls, and exhausting outdoors.

This generator is subject to the following portions of 40 CFR 60, Subpart III.

1. 40 CFR 60.4200(a)(2)(i) and (c)
2. 40 CFR 60.4205(b)
3. 40 CFR 60.4206
4. 40 CFR 60.4207(a)
5. 40 CFR 60.4208(f), (g), and (h)
6. 40 CFR 60.4209(a)
7. 40 CFR 60.4211(f)
8. 40 CFR 60.4214(b)
9. 40 CFR 60.4218
10. 40 CFR 60.4219
11. Table 5 to Subpart III of Part 60
12. Table 8 to Subpart III of Part 60

The requirements of 40 CFR Part 60, Subpart A – General Provisions, which are incorporated as 326 IAC 12-1, apply to the generator except as otherwise specified in 40 CFR 60, Subpart III.

(i) There are no other New Source Performance Standards (40 CFR Part 60) and 326 IAC 12 included for this proposed revision.

National Emission Standards for Hazardous Air Pollutants (NESHAP):

(a) The emergency generator is subject to the National Emission Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines, 40 CFR 63, Subpart ZZZZ, which is incorporated by reference as 326 IAC 20-82, because this generator is considered a new
stationary reciprocating internal combustion engines that is located at an area source of HAP emissions. The generator subject to this rule include the following:

1. One (1) emergency diesel generator, identified as EmGen #2, approved in 2019 for construction, with a maximum capacity of 268 HP, using no controls, and exhausting outdoors.

This emission unit is subject to the following portions of 40 CR 63, Subpart ZZZZ:

1. 40 CFR 63.6580
2. 40 CFR 63.6585
3. 40 CFR 63.6590(a)(2)(iii) and (c)(1)
4. 40 CFR 63.6595(a)(7)
5. 40 CFR 63.6665
6. 40 CFR 63.6670
7. 40 CFR 63.6675

The requirements of 40 CFR Part 63, Subpart A – General Provisions, which are incorporated as 326 IAC 20-1, apply to the generator except as otherwise specified in 40 CFR 63, Subpart ZZZZ.

(b) The requirements of the National Emission Standards for Hazardous Air Pollutants (NESHAPs) for Industrial, Commercial, and Institutional Boiler Area Sources, 40 CFR 63.11193, Subpart JJJJJJ, are not included for the hot water heater, because this water heater is exempt pursuant to 40 CFR 63.11195(f).

(c) The requirements of the National Emission Standards for Hazardous Air Pollutants for Carbon Black Production Area Sources, 40 CFR 63, Subpart MMMMMM, are not included in the permit, for the proposed Plant 2 carbon black production since the source uses a different technique to produce carbon black.

On June 30, 2008 EPA Region 10, EPA’s Office of Enforcement and Compliance Assurance (OECA) and EPA’s Office of Air Quality Planning and Standards (OAQPS) reviewed a request from Reklaim Technologies, Inc. in Oregon. Reklaim uses a similar technology that Pyrolyx will use, in which carbon black is produced from reclaimed tires and not from petroleum. The EPA Offices concluded that since the facility is materially different from the “carbon black production” process that is subject to Subpart MMMMMM and does not fall within the definition of “carbon black production”, then they are not subject to the provisions of Subpart MMMMMM.

As defined in 40 CFR 63.1103(f)(2), Subpart YY, Carbon black production means the production of carbon black by either the furnace, thermal, acetylene decomposition, or lampblack processes.

(d) There are no other National Emission Standards for Hazardous Air Pollutants under 40 CFR 63, 326 IAC 14 and 326 IAC 20 included for this proposed revision.

Compliance Assurance Monitoring (CAM):

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

Due to this revision, state rule applicability has been reviewed as follows:

326 IAC 2-2 (PSD) and 326 IAC 2-3 (Emission Offset)
PSD and Emission Offset applicability is discussed under the PTE of the Entire Source After Issuance of the FESOP Revision section of this document.
The following are the current PSD, Emission Offset and FESOP limits for Plant 1 which will be adjusted in this permitting action SPR No. 167-41726-00160 to incorporate Plant 2 and remain a FESOP source. See “Proposed Changes: on Page 17 of this TSD:

**PSD, Emission Offset and FESOP Minor Limits (D.1.1)**

In order to render the requirements of 326 IAC 2-2 (PSD) and 326 IAC 2-3 (Emission Offset) not applicable and in order to comply with the requirements of 326 IAC 2-8-4 (FESOP), the Permittee shall comply with the following:

(a) The SO2 emissions from each of the Pyrolysis Ovens (Oven 1 through Oven 20) shall not exceed 0.85 pound per hour, when exhausting to the Desulfurization Removal System.

(b) The exhausts from each of the Pyrolysis Ovens (Oven 1 through Oven 20) shall not bypass the Desulfurization Removal System more than 100 hours per twelve (12) consecutive month period, with compliance determined at the end of each month.

(c) The combined VOC emissions from the Pyrolysis Process which comprises Ovens 1 through 20 shall not exceed 17.2 pounds per hour.

(d) The CO emissions from each of the Pyrolysis Ovens (Oven 1 through Oven 20) shall not exceed 0.71 pound per hour.

Compliance with these limits, combined with the potential to emit SO2, VOC, and CO from all other emission units at this source shall limit the source-wide potential to emit of SO2, VOC, and CO to less than one-hundred (100) tons per year and renders the requirements of 326 IAC 2-2 (Prevention of Significant Deterioration (PSD)), 326 IAC 2-3 (Emission Offset), 326 IAC 2-7 (Part 70 Permit Program) not applicable to the source.

**PSD Minor Limits and FESOP Limits (D.2.1)**

In order to render the requirements of 326 IAC 2-2 (PSD) not applicable and in order to comply with the requirements of 326 IAC 2-8-4 (FESOP), the Permittee shall comply with the following:

(a) The PM, PM10 and PM2.5 emissions from the milling line (D-07) shall each not exceed 3.63 pound per hour.

(b) The PM, PM10 and PM2.5 emissions from the pellet dryer (D-10) shall each not exceed 9.08 pound per hour.

(c) The PM, PM10 and PM2.5 emissions from the housekeeping dust collection system shall each not exceed (D-09) shall not exceed 6.81 pound per hour.

(d) The PM, PM10 and PM2.5 emissions from the Hopper Storage (D-08) shall each not exceed 0.45 pound per hour.

(e) The PM, PM10 and PM2.5 emissions from the Storage Bin (D-11) shall each not exceed 0.45 pound per hour.

(f) The PM, PM10 and PM2.5 emissions from the Loading Bin (D-12) shall each not exceed 0.45 pound per hour.

Compliance with these limits, combined with the potential to emit PM, PM10, and PM2.5 from all other emission units at this source shall limit the source-wide potential to emit of PM; PM10, and PM2.5 to less than one-hundred (100) tons per year, and shall render the requirements of 326 IAC 2-2 (PSD), and 326 IAC 2-7 (Part 70 Permit Program) not applicable.
326 IAC 2-4.1 (Major Sources of Hazardous Air Pollutants (HAP))
The new emission units 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 2-8-4 (FESOP)
FESOP applicability is discussed under the PTE of the Entire Source After Issuance of the FESOP Revision section of this document.

FESOP HAP Limits (D.1.2)
Pursuant to 326 IAC 2-8-4 (FESOP) and in order to render the requirements of 326 IAC 2-4.1 (Major Sources of Hazardous Air Pollutants (HAP)) not applicable, the Permittee shall comply with the followings:

(a) The combined total HAPs emissions from the Pyrolysis Ovens 1 through 40 shall not exceed 21.0 tons per twelve (12) consecutive month period, with compliance determined at the end of each month.

(b) The combined single HAP emissions from the Pyrolysis Ovens 1 through 40 shall not exceed 9.0 tons per twelve (12) consecutive month period, with compliance determined at the end of each month.

Compliance with these limits, combined with the potential to emit from all other emission units at the source shall limit the source wide single HAP and combined HAPs to less than 10 and 25 tons per year, respectively, and render the requirements of 326 IAC 2-7 (Part 70 Permit Program) and 326 IAC 2-4.1 (Major Source of Hazardous Air Pollutants) not applicable and make this source an area source of HAPs.

326 IAC 4-2-2 (Incinerators)
The twenty (20) Pyrolysis Ovens 21-40 are not subject to the requirements of 326 IAC 4-2-2, because they do not meet the definition of incinerator in 326 IAC 1-2-34. The difference between incineration and the Pyrolysis Process is that incineration combusts material in the presence of oxygen while Pyrolyx USA Pyrolysis Process will break down the shredded tire.

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 this permit:

1. Opacity shall not exceed an average of forty percent (40%) 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.

Note: Although the source is in Vigo County, it is not subject to opacity limitation of 30% because it is not located in the area within a five-tenths (0.5) kilometer radius circle centered at UTM Coordinates Zone 16 East four hundred sixty-four and fifty-two hundredths (464.52) kilometers North four thousand three hundred sixty-nine and twenty-one hundredths (4,369.21) kilometers.

326 IAC 6-4 (Fugitive Dust Emissions Limitations)
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 6.5 (Particulate Emission Limitations Except Lake County)
This source (located in Vigo County) is located in one of the counties listed in 326 IAC 6.5, but it is not one of the sources specifically listed in 326 IAC 6.5-2 through 326 IAC 6.5-10. However, the source-wide PTE of PM is 100 tons per year or more. Therefore, this source is subject to the requirements of 326 IAC 6.5-1-2(a), which requires that PM emissions shall not exceed seven-hundredths (0.07) gram per dry standard cubic meter (g/dscm) (three-hundredths (0.03) grain per dry standard cubic foot (dscf)).

Plant 2 – Pyrolysis Ovens 21-40, Milling (D17), Pellet Dryer (D-20), Housekeeping Dust Collection System (D-19), Hopper Storage (D-18), Storage Bin (D-21), Loading Bin (D-22), Cooling Tower #2, Emergency Diesel Generator (EmGen #2)
Pursuant to 326 IAC 6.5-1-2(a), PM emissions from these units shall not exceed seven-hundredths (0.07) gram per dry standard cubic meter (g/dscm) (three-hundredths (0.03) grain per dry standard cubic foot (dscf)).

These units meet the grain loading limit since each unit employs a control device. The cooling tower emits negligible amount of particulate. Therefore it is assumed meeting the grain loading limit

Plant 2 – Twelve (12) Comfort Heaters and one (1) Water Heater #2
Pursuant to 326 IAC 6.5-1-1(b), these units do not require PM limits under this rule as long as these units continue to burn only natural gas.

Plant 1 - Twelve (12) Comfort Heaters and one (1) Water Heater #1
These units were inadvertenly limited to three-hundredths (0.03) grain per dry standard cubic foot (dscf). Pursuant to 326 IAC 6.5-1-1(b), these units do not require PM limits under this rule as long as these units continue to burn only natural gas.

326 IAC 6-2-1 (Particulate Emission Limitations for Sources of Indirect Heating)
Pursuant to 326 IAC 6-2-1(e), since Plant 1 and Plant 2 Water Heater #1 and Water Heater #2 are not subject to particulate emission limits established under 326 IAC 6.5, these units shall be subject to 326 IAC 6-2-4 for units constructed on or after September 21, 1983.

<table>
<thead>
<tr>
<th>Unit</th>
<th>Year Permitted</th>
<th>Heat Input Capacity (MMBtu/hr)</th>
<th>Q: Source Maximum Operating Capacity Rating at the Time of Each Boiler Construction (MMBtu/hr)</th>
<th>Pt: Particulate Emission Limitation (lb/MMBtu)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Water Heater #1</td>
<td>2017</td>
<td>0.13</td>
<td>0.13</td>
<td>0.6</td>
</tr>
<tr>
<td>Water Heater #2</td>
<td>2019</td>
<td>0.13</td>
<td>0.26</td>
<td>0.6</td>
</tr>
</tbody>
</table>

Particulate emission limitations are calculated based on the following equation:

\[ Pt = \frac{1.09}{Q^{0.26}} \]

Where: \( Pt \) = Pounds of particulate matter emitted per million Btu (lb/MMBtu) heat input.
\( Q \) = Total source maximum operating capacity rating in million Btu per hour (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.

For Q less than 10 MMBtu/hr, Pt shall not exceed 0.6.

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

Pursuant to 326 IAC 6-3-1(b)(1), the water heater #1 and water heater #2 are not subject to the requirements of 326 IAC 6-3, since combustion for indirect heating is specifically exempt from the requirements of this rule.

Plant 2- Pyrolysis Ovens 21-40, Milling (D17), Pellet Dryer (D-20), Housekeeping Dust Collection System (D-19), Hopper Storage (D-18), Storage Bin (D-21), Loading Bin (D-22), Cooling Tower #2, Emergency Diesel Generator (EmGen #2)

Pursuant to 326 IAC 6-3-1(c), the requirements of 326 IAC 6-3-2 are not applicable to these units, since they are subject to particulate emission limitations under 326 IAC 6.5.

326 IAC 7-1.1 Sulfur Dioxide Emission Limitations

The proposed Plant 2 - Pyrolysis Ovens 21 – 40 are not subject to 326 IAC 326 IAC 7-1.1 because each oven does not have potential to emit sulfur dioxide (SO2) equal to or greater than 25 tons per year or 10 pounds per hour.

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

This rule applies to new facilities (as of January 1, 1980), which have potential VOC emissions of 25 tons or more per year, located anywhere in the state, which are not otherwise regulated by other provisions of 326 IAC 8, shall reduce VOC emissions using Best Available Control Technology (BACT).

Each of the proposed Plant 2 - Pyrolysis Ovens 21–40 has potential unlimited VOC potential emissions equal to or greater than twenty-five (25) tons per year and these units are not regulated by other rules in 326 IAC 8. Therefore, these ovens are subject to the requirements of 326 IAC 8-1-6.

In addition the current BACT for Plant 1 - Pyrolysis Ovens 1–20 is being re-evaluated in this permitting action, SPR No. 167-41726-00160.

Based on the BACT Analysis, the BACT determined for the new Plant 2- Pyrolysis Ovens 21-40 and the revised BACT for the Plant 1- Pyrolysis Ovens 1-20 is the following:

Pursuant to 326 IAC 8-1-6 (New Facilities; General Reduction Requirements, the Permittee shall comply with the following VOC BACT requirements for Plant 1 and Plant 2 Pyrolysis Process:

Plant 1 Pyrolysis Ovens 1 through 20
(a) The Plant 1 Pyrolysis Ovens 1 through 20 shall be controlled by a thermal oxidizer with a minimum overall control efficiency of 98.75%.

(b) The combined rubber charge through Plant 1, Pyrolysis Ovens 1 through 20 shall not exceed 52,211 tons per twelve consecutive month period.

(c) The combined VOC emissions from the Plant 1 Pyrolysis Ovens 1 through 20 shall not exceed to 10.70 pounds per hour.

Plant 2 Pyrolysis Ovens 21 through 40
(a) The Plant 2 Pyrolysis Ovens 21 through 40 shall be controlled by a thermal oxidizer with a minimum overall control efficiency of 98.75%.

(b) The combined rubber charge through Plant 2, Pyrolysis Ovens 21 through 40 shall not exceed 52,211 tons per twelve consecutive month period.
(c) The combined VOC emissions from the Plant 2 Pyrolysis Ovens 21 through 40 shall not exceed to 10.70 pounds per hour.

A detailed BACT Analysis is included as Appendix B

326 IAC 9-1 (Carbon Monoxide Emission Limits)
The requirements of 326 IAC 9-1 do not apply to the Plant 1- Pyrolysis Ovens 21-40, because these ovens are not one of the specifically listed source categories in this rule.

326 IAC 10-3 (Nitrogen Oxide Reduction Program for Specific Source Categories)
The requirements of 326 IAC 10-3 do not apply to the Plant 1- Pyrolysis Ovens 21-40 since the source is not located in Clark or Floyd County and the ovens are not specifically listed source categories under 326 IAC 10-3-1(a)(2).

### Compliance Determination and Monitoring Requirements

(a) The Compliance Determination Requirements applicable to this revision are as follows:

**Testing Requirements:**

<table>
<thead>
<tr>
<th>Emission Unit</th>
<th>Control Device</th>
<th>Timeframe for Testing or Date of Initial Valid Demonstration</th>
<th>Pollutant/Parameter</th>
<th>Frequency of Testing</th>
<th>Authority</th>
</tr>
</thead>
<tbody>
<tr>
<td>Plant 2-Pyrolysis Ovens 21-40</td>
<td>Thermal Oxidizer</td>
<td>Not later than 180 days upon start-up of pyrolysis operations</td>
<td>VOC</td>
<td>Every 5 years</td>
<td>326 IAC 2-2, 326 IAC 2-8 and 326 IAC 8-1-6</td>
</tr>
<tr>
<td>Desulfurization Removal System</td>
<td></td>
<td></td>
<td>SO2</td>
<td>Every 5 years</td>
<td>326 IAC 2-2, 326 IAC 2-8</td>
</tr>
<tr>
<td>Milling (D-17, Pellet Dryer (D-20), Housekeeping Dust Collector (D-19)</td>
<td>Baghouses</td>
<td>Not later than 180 days upon start-up of emission unit</td>
<td>PM, PM10, PM2.5</td>
<td>Every 5 years</td>
<td>326 IAC 2-2, 326 IAC 2-8</td>
</tr>
</tbody>
</table>

(b) The Compliance Monitoring Requirements applicable to this proposed revision are as follows:

<table>
<thead>
<tr>
<th>Control/ Emission Unit</th>
<th>Type of Parametric Monitoring</th>
<th>Frequency</th>
<th>Range or Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Desulfurization Removal System/Plant 2-Pyrolysis Ovens 21-40</td>
<td>Outlet H2S Concentration reading and control efficiency</td>
<td>Continuous - Using Continuous Parametric Monitoring System (CPMS)</td>
<td>To be established during initial test</td>
</tr>
<tr>
<td>Thermal Oxidizer/ Plant 2- Pyrolysis Ovens 21-40</td>
<td>Operating Temperature</td>
<td>Continuous –</td>
<td>at or above 1,400 °F</td>
</tr>
<tr>
<td></td>
<td>Duct pressure or fan amperage</td>
<td>Daily</td>
<td>Within normal range from start-up until stack test results are available, then within the normal range established in the most recent compliant stack test</td>
</tr>
<tr>
<td>Control/ Emission Unit</td>
<td>Type of Parametric Monitoring</td>
<td>Frequency</td>
<td>Range or Specification</td>
</tr>
<tr>
<td>------------------------</td>
<td>-----------------------------</td>
<td>-----------</td>
<td>----------------------</td>
</tr>
<tr>
<td>Baghouses/Milling Line (D-17), pellet dryer (D-20), housekeeping (D-19), Hopper Storage (D-18), Storage Bin (D-21), Loading Bin (D-22) (each process has a baghouse)</td>
<td>Visible Emission Notation (VEN)</td>
<td>Daily</td>
<td>Normal - Abnormal</td>
</tr>
</tbody>
</table>

These monitoring requirements are necessary because the Thermal Oxidizer for Plant 2-Pyrolysis Ovens 21-40 must operate properly to assure compliance with 326 IAC 2-8, minor limit under 326 IAC 2-2, and BACT under 326 IAC 8-1-6.

The monitoring requirements are necessary because the Desulfurization Removal System for Plant 2-Pyrolysis Ovens 21-40 must operate properly to assure compliance with 326 IAC 2-8, and minor limit under 326 IAC 2-3; while the baghouses/dust collector for the milling line, pellet dryer, housekeeping dust, loading bin and storage bin must operate properly to assure compliance with 326 IAC 2-8, minor limit under 326 IAC 2-2 and 326 IAC 6.5.

**Proposed Changes**

The following changes listed below are due to the proposed revision. Deleted language appears as strikethrough text and new language appears as **bold** text:

1. Section A.1, Section A.2, Section A.3, Section D.1, Section D.2, Section D.3, Section E.1 and Section E.2 have been revised to reflect the proposed Plant 2.

2. Revision to existing Reporting Form for Plant 1- Pyrolysis Ovens 1 -20 and addition of a new Reporting Form for the new Plant 2 - Pyrolysis Ovens 21 -40.

**Section A.1, Section A.2, Section A.3, Section D.1, Section D.2, Section D.3, Section E.1 Changes**

**A.1 General Information [326 IAC 2-8-3(b)]**

The Permittee owns and operates a stationary other basic inorganic chemical manufacturing - recovered carbon black facility.

Source Address: 4150 East Steelton Avenue, Terre Haute, Indiana 47805  
General Source Phone Number: (302) 295-1370  
SIC Code: 2895 (Carbon Black)

**A.2 Emission Units and Pollution Control Equipment Summary [326 IAC 2-8-3(c)(3)]**

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

**Plant 1:**

**********

(d) One (1) milling line, identified as D-07, approved in 2019 for construction, with a maximum capacity of 1.98 ton per hour carbon black solids, using a dust collector as control *controlled by Baghouse D-07*, and exhausting to stack P-D-07.

(e) One (1) pellet dryer, identified as D-10, approved in 2019 for construction, with a maximum heat input capacity of 5.7 MMBtu per hour, using a dust collector as control *controlled by Baghouse D-10* and exhausting to stack G/D-10.
(f) One (1) housekeeping dust collection system, identified as D-09, approved in 2019 for construction, and exhausting to stack P-D-09.

(g) One (1) Hopper Storage, identified as D-08, approved in 2019 for construction, using a dust collector as control, and exhausting to stack P-D-08.

(h) One (1) Storage Bin, identified as D-11, approved in 2019 for construction, using a dust collector as control, and exhausting to stack P-D-11.

(i) One (1) Loading Bin, identified as D-12, approved in 2019 for construction, using a dust collector as control, and exhausting to stack P-D-12.

Plant 2:

(j) Twenty (20) natural gas-fired Pyrolysis Ovens identified as oven 21 through oven 40, each approved in 2019 for construction, each with a maximum rated heat input capacity of 2.387 MMBtu per hour and each with maximum capacity of 2.16 tons per batch of shredded rubber charge, with each oven having their own condenser, collectively vented to a desulfurization system (DS-2) for process emissions SO2 control, collectively using a thermal oxidizer (TO-2) for process emissions VOC and HAP control, and combustion emissions exhausting to a flue gas stack and vent stack for each oven identified as U-G-01b through U-G-20b for the flue gas stacks and U-G-21b through U-G-40b for the vent stacks.

(k) One (1) Desulfurization Removal System, identified as DS-2, approved in 2019 for construction, with maximum flow rate of 447 cfm, and exhausting to thermal oxidizer, TO-2.

(l) One (1) thermal oxidizer, identified as TO-2, approved in 2019 for construction, with maximum rated heat input capacity of 2.00 MMBtu/hr, exhausting to stack P-G-04.

(m) One (1) milling line, identified as D-17, approved in 2019 for construction, with a maximum capacity of 1.98 ton per hour carbon black solids, controlled by Baghouse D-17 and exhausting to stack P-D-17.

(n) One (1) pellet dryer, identified as D-20, approved in 2019 for construction, with a maximum heat input capacity of 5.7 MMBtu per hour, controlled by Baghouse D-20 and exhausting to stack G/D-20.

(o) One (1) housekeeping dust collection system, identified as D-19, approved in 2019 for construction, and exhausting to stack P-D-19.

(p) One (1) Hopper Storage, identified as D-18, approved in 2019 for construction, using a dust collector as control, and exhausting to stack P-D-18.

(q) One (1) Storage Bin, identified as D-21, approved in 2019 for construction, using a dust collector as control, and exhausting to stack P-D-21.

(r) One (1) Loading Bin, identified as D-22, approved in 2019 for construction, using a dust collector as control, and exhausting to stack P-D-22.
A.3 Insignificant Activities [326 IAC 2-7-1(21)][326 IAC 2-8-3(c)(3)(I)]

This stationary source also includes the following insignificant activities:

Plant 1:

(a) One (1) emergency diesel generator, identified as EmGen #1, approved in 2019 for construction, with a maximum capacity of 268 HP, using no controls, and exhausting outdoors.

(b) Four (4) pyrolysis oil storage tanks, identified as Tank1 through Tank4, each approved in 2019 for construction, each with a capacity of 34,104 gallons and each maximum product throughput rate of 1,773,408 gallons per year, each using no controls, and each exhausting outdoors.

(c) One (1) cooling tower, identified as Cooling Tower #1, approved in 2017 for construction, with a maximum circulation rate of 84.32 gallons per minute, using no controls, and exhausting outdoors.

(d) Twelve (12) small natural gas comfort heaters, approved in 2017 for construction, with a combined heat input capacity of 0.768 MMBtu per hour, each using no controls, and each exhausting outdoors.

(e) One (1) natural gas fired water heater #1, approved in 2017 for construction, with a heat input capacity of 0.13 MMBtu per hour, using no controls, and exhausting outdoors.

Plant 2:

(f) One (1) emergency diesel generator, identified as EmGen #2, approved in 2019 for construction, with a maximum capacity of 268 HP, using no controls, and exhausting outdoors.

(g) Four (4) pyrolysis oil storage tanks, identified as Tank5 through Tank8, each approved in 2019 for construction, each with a capacity of 34,104 gallons and each maximum product throughput rate of 1,773,408 gallons per year, each using no controls, and each exhausting outdoors.

(h) One (1) cooling tower, identified as Cooling Tower #2, approved in 2019 for construction, with a maximum circulation rate of 84.32 gallons per minute, using no controls, and exhausting outdoors.

(i) Twelve (12) small natural gas comfort heaters, approved in 2019 for construction, with a combined heat input capacity of 0.768 MMBtu per hour, each using no controls, and each exhausting outdoors.

(j) One (1) natural gas fired water heater #2, approved in 2019 for construction, with a heat input capacity of 0.13 MMBtu per hour, using no controls, and exhausting outdoors.
SECTION D.1  EMISSIONS UNIT OPERATION CONDITIONS

Emissions Unit Description:

Plant 1:

(a) Twenty (20) natural gas-fired Pyrolysis Ovens, identified as oven 1 through oven 20, each approved in 2019 for construction, each with a maximum rated heat input capacity of 2.387 MMBtu per hour and each with maximum capacity of 2.16 tons per batch of shredded rubber charge, with each oven having their own condenser, collectively vented to a desulfurization system (DS-1) for process emissions SO2 control, collectively using a thermal oxidizer (TO-1) for process emissions VOC and HAP control, and combustion emissions exhausting to a flue gas stack and vent stack for each oven identified as U-G-01 through U-G-20 for the flue gas stacks and U-G-21 through U-G-40 for the vent stacks.

(b) One (1) Desulfurization Removal System, identified as DS-1, approved in 2019 for construction, with maximum flow rate of 447 cfm, and exhausting to thermal oxidizer, TO-1.

(c) One (1) thermal oxidizer, identified as TO-1, approved in 2019 for construction, with maximum rated heat input capacity of 2.00 MMBtu/hr, exhausting to stack P-G-02.

Plant 2:

(j) Twenty (20) natural gas-fired Pyrolysis Ovens identified as oven 21 through oven 40, each approved in 2019 for construction, each with a maximum rated heat input capacity of 2.387 MMBtu per hour and each with maximum capacity of 2.16 tons per batch of shredded rubber charge, with each oven having their own condenser, collectively vented to a desulfurization system (DS-2) for process emissions SO2 control, collectively using a thermal oxidizer (TO-2) for process emissions VOC and HAP control, and combustion emissions exhausting to a flue gas stack and vent stack for each oven identified as U-G-01b through U-G-20b for the flue gas stacks and U-G-21b through U-G-40b for the vent stacks.

(k) One (1) Desulfurization Removal System, identified as DS-2, approved in 2019 for construction, with maximum flow rate of 447 cfm, and exhausting to thermal oxidizer, TO-2.

(l) One (1) thermal oxidizer, identified as TO-2, approved in 2019 for construction, with maximum rated heat input capacity of 2.00 MMBtu/hr, exhausting to stack P-G-04.

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

Emission Limitations and Standards [326 IAC 2-8-4(1)]

D.1.1 PSD, Emission Offset Minor Limits and FESOP Limits [326 IAC 2-2] [326 IAC 2-3] [326 IAC 2-8-4] Pursuant to 326 IAC 2-8-4 (FESOP) and in order to render the requirements of 326 IAC 2-2 (Prevention of Significant Deterioration (PSD)), 326 IAC 2-7 (Part 70) and 326 IAC 2-3 (Emission Offset) not applicable, the Permittee shall comply with the following:

(c) The SO2 emissions from each of the Pyrolysis Ovens (Oven 1 through Oven 20) shall not exceed 0.85 pound per hour, when exhausting to the Desulfurization Removal System.

(d) The exhausts from each of the Pyrolysis Ovens (Oven 1 through Oven 20) shall not bypass the Desulfurization Removal System more than 100 hours per twelve (12) consecutive month period, with compliance determined at the end of each month.
(c) The combined VOC emissions from the Pyrolysis Process which comprises Ovens 1 through 20 shall not exceed 17.2 pounds per hour.

(e) The CO emissions from each of the Pyrolysis Ovens (Oven 1 through Oven 20) shall not exceed 0.71 pound per hour.

Compliance with these limits, combined with the potential to emit SO2, VOC, and CO from all other emission units at this source shall limit the source-wide potential to emit of SO2, VOC, and CO to less than one-hundred (100) tons per year and renders the requirements of 326 IAC 2-2 (Prevention of Significant Deterioration (PSD)), 326 IAC 2-3 (Emission Offset), 326 IAC 2-7 (Part 70 Permits) not applicable to the source.

In order to render the requirements of 326 IAC 2-2 (PSD) and 326 IAC 2-3 (Emission Offset) not applicable and in order to comply with the requirements of 326 IAC 2-8-4 (FESOP), the Permittee shall comply with the following:

(a) The combined SO2 emissions from Plant 1 Pyrolysis Ovens 1 through 20 (excluding combustion emissions) shall not exceed 10.0 pounds per hour, when exhausting to the Desulfurization Removal System, identified as DS-1.

(b) The exhausts from each of the Plant 1 Pyrolysis Ovens 1 through 20 shall not bypass the Desulfurization Removal System, identified as DS-1 for more than 100 hours per twelve (12) consecutive month period, with compliance determined at the end of each month.

(c) The combined VOC emissions from Plant 1 Pyrolysis Ovens 1 through 20 (excluding combustion emissions) shall not exceed 10.70 pounds per hour.

(d) The combined CO emissions from Plant 1 Pyrolysis Ovens 1 through 20 (excluding combustion emissions) shall not exceed 5.69 pound per hour.

(e) The combined SO2 emissions from Plant 2 Pyrolysis Ovens 21 through 40 (excluding combustion emissions) shall not exceed 10.0 pounds per hour, when exhausting to the Desulfurization Removal System, identified as DS-2.

(f) The exhausts from each of the Plant 2 Pyrolysis Ovens 21 through 40 shall not bypass the Desulfurization Removal System, identified as DS-2 for more than 100 hours per twelve (12) consecutive month period, with compliance determined at the end of each month.

(g) The combined VOC emissions from Plant 2 Pyrolysis Ovens 21 through 40 (excluding combustion emissions) (excluding combustion emissions) shall not exceed 10.70 pounds per hour.

(h) The combined CO emissions from Plant 2 Pyrolysis Ovens 21 through 40 (excluding combustion emissions) shall not exceed 5.69 pound per hour.

(i) NOx emissions from the Plant 2 Pyrolysis Ovens 1 through 40 (excluding combustion emissions) shall not exceed 0.30 pound per million British thermal unit (lb/MMBtu) heat input.

Compliance with these limits, combined with the potential to emit SO2, VOC, CO, and NOx from all other emission units at this source shall limit the source-wide potential to emit of SO2, VOC, CO, and NOx to less than one-hundred (100) tons per year and renders the
requirements of 326 IAC 2-2 (Prevention of Significant Deterioration (PSD)), 326 IAC 2-3 (Emission Offset), 326 IAC 2-7 (Part 70 Permit Program) not applicable to the source.

D.1.2 FESOP Hazardous Air Pollutants Minor Limits [326 IAC 2-8-4]

Pursuant to 326 IAC 2-8-4 (FESOP) and in order to render the requirements of 326 IAC 2-4.1 (Major Sources of Hazardous Air Pollutants (HAP)) not applicable, the Permittee shall comply with the followings:

(a) The combined total HAPs emissions from the Pyrolysis Process which comprises Ovens 1 through 20 shall not exceed 21 tons per twelve (12) consecutive month period, with compliance determined at the end of each month.

(b) The combined single HAP emissions from the Pyrolysis Process which comprises Ovens 1 through 20 shall not exceed 8.5 tons per twelve (12) consecutive month period, with compliance determined at the end of each month.

(a) The combined total HAPs emissions from Plant 1 and Plant 2 Pyrolysis Ovens 1 through 40 (excluding combustion emissions) shall not exceed 21.0 tons per twelve (12) consecutive month period, with compliance determined at the end of each month.

(b) The combined single HAP emissions from Plant 1 and Plant 2 Pyrolysis Ovens 1 through 40 (excluding combustion emissions) shall not exceed 9.0 tons per twelve (12) consecutive month period, with compliance determined at the end of each month.

Compliance with these limits, combined with the potential to emit from all other emission units at the source shall limit the source wide single HAP and combined HAPs to less than 10 and 25 tons per year, respectively, and render the requirements of 326 IAC 2-7 (Part 70 Permit Program) and 326 IAC 2-4.1 (Major Source of Hazardous Air Pollutants) not applicable and make this source an area source of HAPs.

D.1.3 Volatile Organic Compounds (VOC) Best Available Control Technology (BACT) [326 IAC 8-1-6]

Pursuant to 326 IAC 8-1-6 (New Facilities; General Reduction Requirements) and SPR 167-40941-00160, and SPR 167-41726-00160, the Permittee shall comply with the following BACT:

(a) The Pyrolysis Process which comprises Ovens 1 through 20 shall be controlled by a thermal oxidizer with a minimum overall control efficiency of 98%;

(b) Each Pyrolysis Ovens (Ovens 1 through 20) shall not exceed 2,611 tons of shredded rubber charge per twelve (12) consecutive month period, with compliance at the end of each month; and

(c) The combined VOC emissions from the Pyrolysis Process which comprises Ovens 1 through 20 shall not exceed 17.2 pounds per hour.

Plant 1 Pyrolysis Ovens 1 through 20

(a) The Plant 1 Pyrolysis Ovens 1 through 20 shall be controlled by thermal oxidizer identified as TO-1 with a minimum overall control efficiency of 98.75%.

(b) The combined rubber charge through Plant 1, Pyrolysis Ovens 1 through 20 shall not exceed 52,211 tons per twelve consecutive month period.

(c) The combined VOC emissions from the Plant 1 Pyrolysis Ovens 1 through 20 (excluding combustion emissions) shall not exceed to 10.70 pounds per hour.
Plant 2 Pyrolysis Ovens 21 through 40

(a) The Plant 2 Pyrolysis Ovens 21 through 40 shall be controlled by thermal oxidizer, identified as TO-2 with a minimum overall control efficiency of 98.75%.

(b) The combined rubber charge through Plant 2, Pyrolysis Ovens 21 through 40 shall not exceed 52,211 tons per twelve consecutive month period.

(c) The combined VOC emissions from the Plant 2 Pyrolysis Ovens 21 through 40 (excluding combustion emissions) shall not exceed to 10.70 pounds per hour.

Compliance with the limits in this condition shall satisfy the requirements of 326 IAC 8-1-6.

D.1.4 Particulate Emission Limitations Except Lake County [326 IAC 6.5]

Pursuant to 326 IAC 6.5, Particulate emissions from the twenty (20) pyrolysis ovens (Ovens 1 through 20) shall each not exceed seven-hundredths (0.07) gram per dry standard cubic meter (g/dscm) (three-hundredths (0.03) grain per dry standard cubic feet (dscf)).

Pursuant to 326 IAC 6.5, Particulate emissions from the forty (40) Pyrolysis Ovens 1 through 40 shall each not exceed seven-hundredths (0.07) gram per dry standard cubic meter (g/dscm) (three-hundredths (0.03) grain per dry standard cubic feet (dscf)).

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Compliance Determination Requirements [326 IAC 2-8-4(1)]

D.1.6 VOC, CO, HAPs, and SO₂ Control

(a) In order to assure compliance with Conditions D.1.1(c), D.1.2 and D.1.3(c), the thermal oxidizer, TO-1 for VOC, CO, and HAPs control shall be in operation and control emissions from the pyrolysis ovens at all times the pyrolysis ovens are in operation.

(b) In order to assure compliance with Condition D.1.1(a), the Desulfurization Removal System for SO₂ control shall be in operation and control emissions from the pyrolysis ovens at all times the pyrolysis ovens are in operation, with the allowance of 100 hours per year in bypass.

(a) In order to assure compliance with Conditions D.1.1(c), D.1.1(d), D.1.2 and D.1.3(c), the thermal oxidizer, identified as TO-1 for VOC, CO, and HAPs control shall be in operation and control emissions from Plant 1 Pyrolysis Ovens 1 through 20 at all times Pyrolysis Ovens 1 through 20 are in operation.

(b) In order to assure compliance with Conditions D.1.1(g), D.1.1(h), D.1.2 and D.1.3(f), the thermal oxidizer, identified as TO-2 for VOC, CO, and HAPs control shall be in operation and control emissions from Plant 2 Pyrolysis Ovens 21 through 40 at all times Pyrolysis Ovens 21 through 40 are in operation.

(c) In order to assure compliance with Condition D.1.1(a), the Desulfurization Removal System, identified as DS-1 for SO₂ control shall be in operation and control emissions from Plant 1 Pyrolysis Ovens 1 through 20 at all times Pyrolysis Ovens 1 through 20 are in operation, with the allowance of 100 hours per year in bypass, each.

(d) In order to assure compliance with Condition D.1.1(e), the Desulfurization Removal System, identified as DS-2 for SO₂ control shall be in operation and control emissions from Plant 2 Pyrolysis Ovens 21 through 40 at all times Pyrolysis Ovens 21 through 40 are in operation, with the allowance of 100 hours per year in bypass, each.
D.1.7 Testing Requirements [326 IAC 2-1.1-11]

(a) Not later than 180 days after the startup of the twenty (20) Pyrolysis Ovens (Ovens 1 through 20), the Permittee shall perform testing of the Thermal Oxidizer, TO-1 to determine the overall control efficiency (including capture and destruction efficiency), and VOC, CO, and HAPs emissions associated with the Pyrolysis Ovens in order to demonstrate compliance with Conditions D.1.1(c), D.1.1(d), D.1.2, D.1.3(a), and D.1.3(c), utilizing methods approved by the commissioner at least once every 5 years from the date of the most recent valid compliance demonstration. Testing shall be conducted in accordance with the provisions of 326 IAC 3-6 (Source Sampling Procedures). Section C – Performance Testing contains the Permittee’s obligation with regard to the performance testing required by this condition.

(b) Not later than 180 days after the start-up of the Pyrolysis Operation, the Permittee shall perform SO2 testing to determine the uncontrolled emission rate, controlled emission rate, and overall control efficiency of the Desulfurization Removal System, associated with the Pyrolysis Ovens in order to demonstrate compliance with Conditions D.1.1(a), utilizing methods approved by the commissioner at least once every 5 years from the date of the most recent valid compliance demonstration. Testing shall be conducted in accordance with the provisions of 326 IAC 3-6 (Source Sampling Procedures). Section C – Performance Testing contains the Permittee’s obligation with regard to the performance testing required by this condition.

(a) Not later than 180 days after the startup of pyrolysis operations at Plant 1 Pyrolysis Ovens 1 through 20, the Permittee shall perform testing of the Thermal Oxidizer, identified as TO-1 to determine the overall control efficiency (including capture and destruction efficiency), and VOC, CO, and HAPs emissions associated with the Pyrolysis Ovens in order to demonstrate compliance with Conditions D.1.1(c), D.1.1(d), D.1.2, D.1.3(a), and D.1.3(c), utilizing methods approved by the commissioner at least once every 5 years from the date of the most recent valid compliance demonstration. Testing shall be conducted in accordance with the provisions of 326 IAC 3-6 (Source Sampling Procedures). Section C – Performance Testing contains the Permittee’s obligation with regard to the performance testing required by this condition.

(b) Not later than 180 days after the start-up of pyrolysis operations at Plant 1 Pyrolysis Ovens 1 through 20, the Permittee shall perform SO2 testing to determine the uncontrolled emission rate, controlled emission rate, and overall control efficiency of the Desulfurization Removal System, identified as DS-1 in order to demonstrate compliance with Conditions D.1.1(a), utilizing methods approved by the commissioner at least once every 5 years from the date of the most recent valid compliance demonstration. Testing shall be conducted in accordance with the provisions of 326 IAC 3-6 (Source Sampling Procedures). Section C – Performance Testing contains the Permittee’s obligation with regard to the performance testing required by this condition.

(c) Not later than 180 days after the startup of pyrolysis operations at Plant 2 Pyrolysis Ovens 21 through 40, the Permittee shall perform testing of the Thermal Oxidizer, identified as TO-2 to determine the overall control efficiency (including capture and destruction efficiency), and VOC, CO, and HAPs emissions associated with the Pyrolysis Ovens in order to demonstrate compliance with Conditions D.1.1(g), D.1.1(h), D.1.2, D.1.3(d), and D.1.3(f), utilizing methods approved by the commissioner at least once every 5 years from the date of the most recent valid compliance demonstration. Testing shall be conducted in accordance with the provisions of 326 IAC 3-6 (Source Sampling Procedures). Section C – Performance Testing contains the Permittee’s obligation with regard to the performance testing required by this condition.
(d) Not later than 180 days after the start-up of pyrolysis operations at Plant 2 Pyrolysis Ovens 21 through 40, the Permittee shall perform SO2 testing to determine the uncontrolled emission rate, controlled emission rate, and overall control efficiency of the Desulfurization Removal System, identified as DS-2 in order to demonstrate compliance with Conditions D.1.1(e), utilizing methods approved by the commissioner at least once every 5 years from the date of the most recent valid compliance demonstration. Testing shall be conducted in accordance with the provisions of 326 IAC 3-6 (Source Sampling Procedures). Section C – Performance Testing contains the Permittee’s obligation with regard to the performance testing required by this condition.

D.1.8 Volatile Organic Compounds (VOC), Carbon Monoxide (CO) and Hazardous Air Pollutants HAPs [326 IAC 2-1.11]

(a) To determine the compliance status with Conditions D.1.1(c), and D.1.3(c), the following equation shall be used to determine the VOC emissions limit:

\[
\text{Combined VOC Emissions, lb/hr} = \left( \frac{\text{TrPO, ton/oven} \times \text{nPO} \times \text{EF, lb/ton}}{\text{1-(CE x DE)}} \right)
\]

Where:
- \text{TrPO} = Throughput/Shredded Rubber Charge each Pyrolysis Oven, tons/oven
- \text{nPO} = Number of Pyrolysis Ovens operating during compliance period
- \text{EF} = VOC emission factor, lb/ton as established during latest stack test
- \text{CE} = Capture efficiency of the incinerator determined during latest stack test
- \text{DE} = VOC destruction efficiency of the incinerator determined during latest stack test

(b) To determine the compliance status with Condition D.1.1(d), the following equation shall be used to determine the CO emissions limit:

\[
\text{Each CO Emissions, lb/hr} = \left( \frac{\text{TrPO, ton/oven} \times \text{EF, lb/ton}}{\text{1-(CE x DE)}} \right)
\]

Where:
- \text{TrPO} = Highest Throughput/Shredded Rubber Charge from any Pyrolysis Oven that operated in a compliance period, tons/oven
- \text{EF} = CO emission factor, lb/ton as established during latest stack test
- \text{CE} = Capture efficiency of the incinerator determined during latest stack test
- \text{DE} = CO destruction efficiency of the incinerator determined during latest stack test

(e) To determine the compliance status with Condition D.1.2, the following equation shall be used to determine the HAPs emission limits:

\[
\text{HAPs Emissions, tons/month} = \left( \frac{\text{TrPO, ton/oven} \times \text{nPO} \times \text{HAP EF, lb/ton}}{\text{1-(CE x DE)}} \right)
\]

Where:
- \text{TrPO} = Throughput/Shredded Rubber Charge Each Pyrolysis Oven, tons/oven
- \text{nPO} = Number of Pyrolysis Ovens operating during compliance period
- \text{EF} = HAP emission factor, lb/ton as established during latest stack test
- \text{CE} = Capture efficiency of the incinerator determined during latest stack test
- \text{DE} = HAP destruction efficiency of the incinerator determined during latest stack test
Compliance Monitoring Requirements  [326 IAC 2-8-4(1)][326 IAC 2-8-5(a)(1)]

D.1.9 Thermal Oxidizer  

(a) A continuous monitoring system shall be calibrated, maintained, and operated on the thermal oxidizer for measuring operating temperature. For the purpose of this condition, continuous means no less often than once per fifteen (15) minutes. The output of this system shall be recorded as 3-hour average. From the date of startup until the stack test results are available, the Permittee shall operate the thermal oxidizer at or above the 3-hour average temperature of 1,400°F.

(b) The Permittee shall determine the 3-hour average temperature from the latest valid stack test that demonstrates compliance with limits in Conditions D.1.1 and D.1.2.

(c) On and after the date the stack test results are available, the Permittee shall operate the thermal oxidizer at or above the 3-hour average temperature as observed during the latest compliant stack test.

(d) If the 3-hour average temperature falls below the above mentioned 3-hour average temperature, the Permittee shall take a reasonable response. Section C - Response to Excursions or Exceedances contains the Permittee's obligation with regard to the response steps required by this condition. Failure to take response steps shall be considered a deviation from this permit.

(a) A continuous monitoring system shall be calibrated, maintained, and operated on each thermal oxidizer (TO-1 and TO-2) for measuring operating temperature. For the purpose of this condition, continuous means no less often than once per fifteen (15) minutes. The output of this system shall be recorded as 3-hour average. From the date of pyrolysis operation start-up until the stack test results are available, the Permittee shall operate the thermal oxidizer at or above the 3-hour average temperature of 1,400°F.

(b) The Permittee shall determine the 3-hour average temperatures from the latest valid stack test that demonstrates compliance with limits in Conditions D.1.1(b), D.1.1(d), D.1.1(g), D.1.1(h), D.1.2, D.1.3(a), D.1.3(c), D.1.3(d), and D.1.3(f).

(c) On and after the date the stack test results are available, the Permittee shall operate the thermal oxidizers at or above the 3-hour average temperatures as observed during the latest compliant stack tests.

(d) If the 3-hour average temperatures fall below the above mentioned 3-hour average temperatures, the Permittee shall take a reasonable response. Section C - Response to Excursions or Exceedances contains the Permittee's obligation with regard to the response steps required by this condition. Failure to take response steps shall be considered a deviation from this permit.

D.1.10 Parametric Monitoring - Thermal Oxidizer  

(a) The Permittee shall determine the appropriate duct pressure or fan amperage for the thermal oxidizer from the latest valid stack test that demonstrates compliance with limits in Conditions D.1.1(c), D.1.1(d), D.1.1(g), D.1.1(h), D.1.2, D.1.3(a), D.1.3(c), D.1.3(d), and D.1.3(f).
D.1.11 Desulfurization Removal System Continuous Parametric Monitoring System (CPMS)

(a) To ensure compliance with Conditions D.1.1(a) and proper operation of the Desulfurization Removal System, the following compliance monitoring is required:

(1) The Permittee shall monitor the outlet H2S concentration upon start-up of the Pyrolysis Operation and shall certify and maintain a continuous H2S monitoring system within 180 days after Pyrolysis Operation start-up operation.

(2) The continuous H2S monitoring system shall be calibrated and operated to measure the outlet H2S concentration of the Desulfurization Removal System serving the Pyrolysis Ovens (Ovens 1 through 20). The continuous H2S monitoring system shall be in operation at all times any of the Pyrolysis Ovens (Ovens 1 through 20) is in operation, except during periods the monitoring system is undergoing quality assurance/quality control checks, repairs, replacement or maintenance or is malfunctioning and during the Bypass Mode. “Continuous” shall mean the collection of at least one measurement of Desulfurization Removal System inlet and outlet H2S concentrations for each 15-minute block period.

(3) Relative Accuracy Test Audits (RATAs) must be performed on the monitoring system no less than once every 5 years.

(4) Zero and Span calibrations shall be performed no less frequently than once per week. According to the Quality Assurance Procedures of 40 CFR Part 60 Appendix F Section 4.0, any reading in excess of 2.5% of span would require immediate corrective action, any reading greater than 10% of span would be considered out-of-control.

(5) The Permittee shall respond to monitor out of control periods as defined in 40 CFR Part 60, Appendix F, Section 4.3.1.

(6) Quarterly Cylinder Gas Audits shall be performed in any quarter where a RATA is not conducted.

(b) The Permittee shall monitor and continuously record the Hydrogen Sulfide (H2S) concentration at the exit of the desulfurization system. A 24-hour average exit concentration range will be determined during valid performance test. The site shall maintain a 24-hour average H2S concentration range when the pyrolysis process is in operation.

(a) To ensure compliance with Conditions D.1.1(e) and proper operation of the Desulfurization Removal Systems, the following compliance monitoring is required:

(1) The Permittee shall monitor the outlet H2S concentration upon start-up of pyrolysis operation at Plant 1 Pyrolysis Ovens 1-20 and shall certify and maintain a continuous H2S monitoring system within 180 days after start-up of pyrolysis operation at Pyrolysis Ovens 1-20.

(2) The Permittee shall monitor the outlet H2S concentration upon start-up of pyrolysis operation at Plant 2 Pyrolysis Ovens 21-40 and shall certify and maintain a continuous H2S monitoring system within 180 days after start-up of pyrolysis operation at Pyrolysis Ovens 21-40.

(3) The continuous H2S monitoring systems shall be calibrated and operated to measure the outlet H2S concentration of the Desulfurization Removal
System, identified as DS-1 serving Plant 1 Pyrolysis Ovens 1 through 20 and Desulfurization Removal System, identified as DS-2 serving Plant 2 Pyrolysis Ovens 21 through 40. The continuous H2S monitoring systems shall be in operation at all times any of the Pyrolysis Ovens 1 through 40 are in operation, except during periods the monitoring system is undergoing quality assurance/quality control checks, repairs, replacement or maintenance or is malfunctioning and during the Bypass Mode. “Continuous” shall mean the collection of at least one measurement of Desulfurization Removal System inlet and outlet H2S concentrations for each 15-minute block period.

(4) Relative Accuracy Test Audits (RATAs) must be performed on the monitoring system no less than once every 5 years.

(5) Zero and Span calibrations shall be performed no less frequently than once per week. According to the Quality Assurance Procedures of 40 CFR Part 60 Appendix F Section 4.0, any reading in excess of 2.5% of span would require immediate corrective action, any reading greater than 10% of span would be considered out of control.

(6) The Permittee shall respond to monitor out of control periods as defined in 40 CFR Part 60, Appendix F, Section 4.3.1.

(7) Quarterly Cylinder Gas Audits shall be performed in any quarter where a RATA is not conducted.

(c) The Permittee shall monitor and continuously record the Hydrogen Sulfide (H2S) concentration at the exit of the desulfurization systems, (DS-1 and DS-2) a 24-hour average exit concentration range will be determined during valid performance test. The site shall maintain a 24-hour average H2S concentration range when the pyrolysis processes are in operation.

Record Keeping and Reporting Requirements [326 IAC 2-8-4(3)]

D.1.12 Record Keeping Requirement

(a) To document the compliance status with Condition D.1.3(b), the Permittee shall maintain monthly records of the amount of shredded rubber charge processed through each oven.

(b) To document the compliance status with Condition D.1.9, the Permittee shall maintain continuous temperature records for each of the thermal oxidizers and the 3-hour average temperatures used to demonstrate compliance during the most recent compliant stack test.

(c) To document the compliance status with Condition D.1.10, the Permittee shall maintain daily records of the duct pressure or fan amperage for the thermal oxidizer. The Permittee shall include in its daily record when the readings are not taken and the reason for the lack of the readings (e.g. the process did not operate that day).

(d) To document the compliance status with Conditions D.1.1(b) and D.1.11, the Permittee shall maintain records in accordance with (1) through (6). Records of all data and operating parameters shall be complete and sufficient to establish compliance with the limit established in Condition D.1.1(a).

(1) Permittee shall maintain records of the readings of the continuous SO2 monitoring system.
(2) All corrective and preventive actions taken.

(3) All maintenance logs, calibration checks, and other required quality assurance activities.

(4) A log of the Pyrolysis (Ovens 1 through 20) operations, including SO2 monitoring system downtime with the following information:
   (A) Date of monitoring system downtime.
   (B) Time of commencement and completion of each downtime.
   (C) Reason for each downtime.
   (D) Nature of system repairs and adjustments.

(5) Records of the date and hours that Desulfurization Removal System was bypassed.

(6) Records of Desulfurization Removal System bed desorptions/regenerations or replacement which shall include date of desorption or replacement.

(a) To document the compliance status with Condition D.1.2, the Permittee shall maintain monthly records of the single and combined HAP emissions from the Pyrolysis Ovens 1 – 40.

(b) To document the compliance status with Condition D.1.3(b), the Permittee shall maintain monthly records of the combined amount of shredded rubber charge through Plant 1 Pyrolysis Ovens 1 through 20.

(c) To document the compliance status with Condition D.1.3(e), the Permittee shall maintain monthly records of the combined amount of shredded rubber charge through Plant 2 Pyrolysis Ovens 21 through 40.

(d) To document the compliance status with Condition D.1.9, the Permittee shall maintain continuous temperature records for each of the thermal oxidizers and the 3-hour average temperatures used to demonstrate compliance during the most recent compliant stack test.

(e) To document the compliance status with Condition D.1.10, the Permittee shall maintain daily records of the duct pressure or fan amperage for the thermal oxidizer. The Permittee shall include in its daily record when the readings are not taken and the reason for the lack of the readings (e.g. the process did not operate that day).

(f) To document the compliance status with Conditions D.1.1(b), D.1.1(f), and D.1.11, the Permittee shall maintain records in accordance with (1) through (7). Records of all data and operating parameters shall be complete and sufficient to establish compliance with the limits established in Conditions D.1.1(b) and D.1.1(f).

(1) Permittee shall maintain records of the readings of the continuous H2S monitoring system.

(2) All corrective and preventive actions taken.

(3) All maintenance logs, calibration checks, and other required quality assurance activities.

(4) A log of the Plant 1 Pyrolysis Oven 1 through 20 operations, including H2S
monitoring system downtime with the following information:

(A) Date of monitoring system downtime.
(B) Time of commencement and completion of each downtime.
(C) Reason for each downtime.
(D) Nature of system repairs and adjustments.

(5) A log of the Plant 2 Pyrolysis Oven 21 through 40 operations, including H2S monitoring system downtime with the following information:

(A) Date of monitoring system downtime.
(B) Time of commencement and completion of each downtime.
(C) Reason for each downtime.
(D) Nature of system repairs and adjustments.

(6) Records of the date and hours that Desulfurization Removal Systems were bypassed.

(7) Records of Desulfurization Removal Systems bed desorptions/regenerations or replacement, which shall include date of desorption or replacement.

D.1.13 Reporting Requirements

A quarterly summary of the information to document the compliance status with Conditions D.1.1(b) and D.1.3(b) shall be submitted using the reporting forms located at the end of this permit or their equivalent, not later than thirty (30) days after the end of the quarter being reported. Section C - General Reporting contains the Permittee's obligation with regard to the reporting required by this condition. The report does require a certification that meets the requirements of 326 IAC 2-8-5(a)(1) by an "authorized individual" as defined by 326 IAC 2-1.1-1(1).

A quarterly summary of the information to document the compliance status with Conditions D.1.1(b), D.1.1(f), D.1.2, D.1.3(b), and D.1.3(e) shall be submitted using the reporting forms located at the end of this permit or their equivalent, not later than thirty (30) days after the end of the quarter being reported. Section C - General Reporting contains the Permittee's obligation with regard to the reporting required by this condition. The report does require a certification that meets the requirements of 326 IAC 2-8-5(a)(1) by an "authorized individual" as defined by 326 IAC 2-1.1-1(1).

SECTION D.2 EMISSIONS UNIT OPERATION CONDITIONS

<table>
<thead>
<tr>
<th>Emissions Unit Description:</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Plant 1:</strong></td>
</tr>
</tbody>
</table>

(d) One (1) milling line, identified as D-07, approved in 2019 for construction, with a maximum capacity of 1.98 ton per hour carbon black solids, using a dust collector as control controlled by Baghouse D-07, and exhausting to stack P-D-07.

(e) One (1) pellet dryer, identified as D-10, approved in 2019 for construction, with a maximum heat input capacity of 5.7 MMBtu per hour, using a dust collector as control controlled by Baghouse D-10 and exhausting to stack G/D-10.

(f) One (1) housekeeping dust collection system, identified as D-09, approved in 2019 for construction, and exhausting to stack P-D-09.
(g) One (1) Hopper Storage, identified as D-08, approved in 2019 for construction, using a dust collector as control, and exhausting to stack P-D-08.

(h) One (1) Storage Bin, identified as D-11, approved in 2019 for construction, using a dust collector as control, and exhausting to stack P-D-11.

(i) One (1) Loading Bin, identified as D-12, approved in 2019 for construction, using a dust collector as control, and exhausting to stack P-D-12.

*******************************

Plant 2:

(m) One (1) milling line, identified as D-17, approved in 2019 for construction, with a maximum capacity of 1.98 ton per hour carbon black solids, controlled by Baghouse D-17 and exhausting to stack P-D-17.

(n) One (1) pellet dryer, identified as D-20, approved in 2019 for construction, with a maximum heat input capacity of 5.7 MMBtu per hour, controlled by Baghouse D-20 and exhausting to stack G/D-20.

(o) One (1) housekeeping dust collection system, identified as D-19, approved in 2019 for construction, and exhausting to stack P-D-19.

(p) One (1) Hopper Storage, identified as D-18, approved in 2019 for construction, using a dust collector as control, and exhausting to stack P-D-18.

(q) One (1) Storage Bin, identified as D-21, approved in 2019 for construction, using a dust collector as control, and exhausting to stack P-D-21.

(r) One (1) Loading Bin, identified as D-22, approved in 2019 for construction, using a dust collector as control, and exhausting to stack P-D-22.

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

Emission Limitations and Standards [326 IAC 2-8-4(1)]

D.2.1 PSD Minor Limits and FESOP Limits [326 IAC 2-2] [326 IAC 2-8-4]

In order to render the requirements of 326 IAC 2-2 (PSD) not applicable and in order to comply with the requirements of 326 IAC 2-8-4 (FESOP), the Permittee shall comply with the following:

(a) The PM, PM10 and PM2.5 emissions from the milling line (D-07) shall each not exceed 3.63 pound per hour.

(b) The PM, PM10 and PM2.5 emissions from the pellet dryer (D-10) shall each not exceed 9.08 pound per hour.

(c) The PM, PM10 and PM2.5 emissions from the housekeeping dust collection system shall each not exceed (D-09) shall not exceed 6.81 pound per hour.

(d) The PM, PM10 and PM2.5 emissions from the Hopper Storage (D-08) shall each not exceed 0.45 pound per hour.

(e) The PM, PM10 and PM2.5 emissions from the Storage Bin (D-11) shall each not exceed 0.45 pound per hour.
(f) The PM, PM10 and PM2.5 emissions from the Loading Bin (D-12) shall each not exceed 0.45 pound per hour.

In order to render the requirements of 326 IAC 2-2 (Prevention of Significant Deterioration (PSD)) and 326 IAC 2-7 (Part 70 Permit Program) not applicable and in order to comply with the requirements of 326 IAC 2-8-4 (FESOP), the Permittee shall comply with the following:

<table>
<thead>
<tr>
<th>Emission Unit</th>
<th>PM, PM10, PM2.5 Emission Limits (lb/hr)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Plant 1</strong></td>
<td></td>
</tr>
<tr>
<td>Milling Line (D-07)</td>
<td>1.61</td>
</tr>
<tr>
<td>Pellet Dryer (D-10)</td>
<td>4.04</td>
</tr>
<tr>
<td>Housekeeping Dust Collection System (D-09)</td>
<td>3.03</td>
</tr>
<tr>
<td>Hopper Storage (D-08)</td>
<td>0.20</td>
</tr>
<tr>
<td>Storage Bin (D-11)</td>
<td>0.20</td>
</tr>
<tr>
<td>Loading Bin (D-12)</td>
<td>0.20</td>
</tr>
<tr>
<td><strong>Plant 2</strong></td>
<td></td>
</tr>
<tr>
<td>Milling Line (D-17)</td>
<td>1.61</td>
</tr>
<tr>
<td>Pellet Dryer (D-20)</td>
<td>4.04</td>
</tr>
<tr>
<td>Housekeeping Dust Collection System (D-19)</td>
<td>3.03</td>
</tr>
<tr>
<td>Hopper Storage (D-18)</td>
<td>0.20</td>
</tr>
<tr>
<td>Storage Bin (D-21)</td>
<td>0.20</td>
</tr>
<tr>
<td>Loading Bin (D-22)</td>
<td>0.20</td>
</tr>
</tbody>
</table>

Compliance with these limits, combined with the potential to emit PM, PM10, and PM2.5 from all other emission units at this source shall limit the source-wide potential to emit of PM2.5, PM10, and PM2.5 to less than one-hundred (100) tons per year, and shall render the requirements of 326 IAC 2-2 (PSD), and 326 IAC 2-7 (Part 70 Permit Program) not applicable.

D.2.2 Particulate Emission Limitations Except Lake County [326 IAC 6.5]

Pursuant to 326 IAC 6.5, particulate emissions from Milling Line 1 (D-07), Hopper storage (D-08), Storage Bin (D-11), Loading Bin (D-12), Pellet Dryer 1 (D-10) and Housekeeping Dust Collection (D-09), and Diesel Generator, shall each not exceed seven-hundredths (0.07) gram per dry standard cubic meter (g/dscm) (three-hundredths (0.03) grain per dry standard cubic feet (dscf)).

Pursuant to 326 IAC 6.5, particulate emissions from Plant 1 Milling Line 1 (D-07), Hopper storage (D-08), Storage Bin (D-11), Loading Bin (D-12), Pellet Dryer 1 (D-10), Housekeeping Dust Collection (D-09), and Plant 2 Milling Line 1 (D-17), Hopper storage (D-18), Storage Bin (D-21), Loading Bin (D-22), Pellet Dryer 1 (D-20), and Housekeeping Dust Collection (D-19), shall each not exceed seven-hundredths (0.07) gram per dry standard cubic meter (g/dscm) (three-hundredths (0.03) grain per dry standard cubic feet (dscf)).

*******************************************************************************

Compliance Determination Requirements [326 IAC 2-8-4(1)]

D.2.4 Particulate Control

In order to ensure compliance with Condition D.2.1 and D.2.2, the dust collectors for particulate control shall be in operation and control emissions from the Milling Line 1 (D-07), Hopper storage (D-08), Storage Bin (D-11), Loading Bin (D-12), Pellet Dryer 1 (D-10) and Housekeeping Dust Collection (D-09), at all times these units are in operation.
In order to ensure compliance with Conditions D.2.1 and D.2.2, the dust collectors for particulate control shall be in operation and control emissions from Plant 1 Milling Line 1 (D-07), Hopper storage (D-08), Storage Bin (D-11), Loading Bin (D-12), Pellet Dryer (D-10), Housekeeping Dust Collection (D-09), and Plant 2 Milling Line 1 (D-17), Hopper storage (D-88), Storage Bin (D-21), Loading Bin (D-22), Pellet Dryer (D-20) and Housekeeping Dust Collection (D-19) at all times these units are in operation.

In the event that bag failure is observed in a multi-compartment baghouse, if operations will continue for ten (10) days or more after the failure is observed before the failed units will be repaired or replaced, the Permittee shall promptly notify the IDEM, OAQ of the expected date the failed units will be repaired or replaced. The notification shall also include the status of the applicable compliance monitoring parameters with respect to normal, and the results of any response actions taken up to the time of notification.

************************

D.2.5 Testing Requirements [326 IAC 2-1.1-11]

(a) Not later than 180 days after the start-up of the Plant 1 milling line (D-07), pellet dryer (D-10), and housekeeping dust collection system (D-09), the Permittee shall perform PM, PM10 and PM2.5 testing of the baghouses associated with these emission units in order to demonstrate compliance with Condition D.2.1, utilizing methods approved by the commissioner at least once every 5 years from the date of the most recent valid compliance demonstration. Testing shall be conducted in accordance with the provisions of 326 IAC 3-6 (Source Sampling Procedures). Section C – Performance Testing contains the Permittee’s obligation with regard to the performance testing required by this condition. PM10 and PM2.5 includes filterable and condensable PM.

(b) Not later than 180 days after the start-up of Plant 2 milling line (D-17), pellet dryer (D-20), and housekeeping dust collection system (D-19), the Permittee shall perform PM, PM10 and PM2.5 testing of the baghouses associated with these emission units in order to demonstrate compliance with Condition D.2.1, utilizing methods approved by the commissioner at least once every 5 years from the date of the most recent valid compliance demonstration. Testing shall be conducted in accordance with the provisions of 326 IAC 3-6 (Source Sampling Procedures). Section C – Performance Testing contains the Permittee’s obligation with regard to the performance testing required by this condition. PM10 and PM2.5 includes filterable and condensable PM.

Compliance Monitoring Requirements [326 IAC 2-8-4(1)][326 IAC 2-8-5(a)(1)]

D.2.6 Visible Emissions Notations

(a) Visible emission notations of dust collectors stack exhausts (P-D-07, G/D-10, P-D-09, P-D-08, P-D-11 and P-D-12) shall be performed once per day during normal daylight operations. A trained employee shall record whether emissions are normal or abnormal.

Visible emission notations of dust collector stack exhausts (P-D-07, G/D-10, P-D-09, P-D-08, P-D-11, P-D-12, P-D-17, G/D-20, P-D-19, P-D-18, P-D-21 and P-D-22) shall be performed once per day during normal daylight operations. A trained employee shall record whether emissions are normal or abnormal.

*******************************************************************************
SECTION D.3  EMISSIONS UNIT OPERATION CONDITIONS

Emissions Unit Description:

Insignificant Activities:

**Plant 1:**

(a) One (1) emergency diesel generator, identified as EmGen #1, approved in 2019 for construction, with a maximum capacity of 268 HP, using no controls, and exhausting outdoors.

(d) Twelve (12) small natural gas comfort heaters, approved in 2017 for construction, with a combined heat input capacity of 0.768 MMBtu per hour, each using no controls, and each exhausting outdoors.

(c) One (1) cooling tower, identified as cooling tower, approved in 2017 for construction, with a maximum circulation rate of 84.32 gallons per minute, using no controls, and exhausting outdoors.

(e) One (1) natural gas fired water heater #1, approved in 2017 for construction, with a heat input capacity of 0.13 MMBtu per hour, using no controls, and exhausting outdoors.

**Plant 2:**

(f) One (1) emergency diesel generator, identified as EmGen #2, approved in 2019 for construction, with a maximum capacity of 268 HP, using no controls, and exhausting outdoors.

(h) One (1) cooling tower, identified as Cooling Tower #2, approved in 2019 for construction, with a maximum circulation rate of 84.32 gallons per minute, using no controls, and exhausting outdoors.

(j) One (1) natural gas fired water heater #2, approved in 2019 for construction, with a heat input capacity of 0.13 MMBtu per hour, using no controls, and exhausting outdoors.

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

Emission Limitations and Standards  [326 IAC 2-8-4(1)]

**D.3.1 Particulate Matter (PM) Emission Limitations Except Lake County [326 IAC 6.5]**

Pursuant to 326 IAC 6.5, Particulate emissions from the emergency diesel generator, the small natural gas combustion units, and the natural gas fired water heater shall each not exceed seven-hundredths (0.07) gram per dry standard cubic meter (g/dscm) (three-hundredths (0.03) grain per dry standard cubic feet (dscf)).

Pursuant to 326 IAC 6.5, Particulate emissions from the emergency diesel generators, identified as EnGen #1, EmGen #2, cooling tower, identified as Cooling Tower #1, and cooling tower, identified as Cooling Tower #2, shall each not exceed seven-hundredths (0.07) gram per dry standard cubic meter (g/dscm) (three-hundredths (0.03) grain per dry standard cubic feet (dscf)).
D.3.2  Particulate Emission Limitations for Sources of Indirect Heating [326 IAC 6-2-4]

Pursuant to 326 IAC 6-2-4 (Particulate Emission Limitations for Sources of Indirect Heating), the particulate emissions from Water Heater #1 and Water Heater #2 shall each not exceed 0.6 pound per MMBtu (lb/MMBtu).

D.3.23  Preventive Maintenance Plan  [326 IAC 2-8-4(9)]

A Preventive Maintenance Plan is required for these facilities and any control devices. Section B - Preventive Maintenance Plan contains the Permittee’s obligation with regard to the preventive maintenance plan required by this condition.
SECTION E.1 NSPS

Emissions Unit Description:

Plant 1:

(a) One (1) emergency diesel generator, identified as EmGen #1, approved in 2019 for construction, with a maximum capacity of 268 HP, using no controls, and exhausting outdoors.

Plant 2:

(f) One (1) emergency diesel generator, identified as EmGen #2, approved in 2019 for construction, with a maximum capacity of 268 HP, using no controls, and exhausting outdoors.

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

New Source Performance Standards (NSPS) Requirements [326 IAC 2-8-4(1)]

******************************************************************************

E.1.2 New Source Performance Standard for Stationary Compression Ignition Internal Combustion Engines NSPS [326 IAC 12] [40 CFR Part 60, Subpart IIII]

The Permittee shall comply with the following provisions of 40 CFR Part 60, Subpart III (included as Attachment A to the operating permit), which are incorporated by reference as 326 IAC 12, for the emission units listed above.

Emergency Diesel Generators:

******************************************************************************

(4) 40 CFR 60.4207(d) 40 CFR 60.4207(a)

******************************************************************************
**SECTION E.2 NESHAP**

**Emissions Unit Description:**

**Plant 1:**

(a) One (1) emergency diesel generator, identified as EmGen #1, approved in 2019 for construction, with a maximum capacity of 268 HP, using no controls, and exhausting outdoors.

**Plant 2:**

(f) One (1) emergency diesel generator, identified as EmGen #2, approved in 2019 for construction, with a maximum capacity of 268 HP, using no controls, and exhausting outdoors.

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

********************************

**INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT**

**OFFICE OF AIR QUALITY**

**COMPLIANCE AND ENFORCEMENT BRANCH**

**FESOP Quarterly Report**

Source Name: Pyrolyx USA Indiana LLC

Source Address: 4150 East Steelton Avenue, Terre Haute, Indiana 47805

FESOP Permit No.: F167-38034-00160

Facility: Pyrolysis Ovens (Oven 1 through Oven 20)

Parameter: Shredded Rubber Charge

Limit: Each of the twenty (20) pyrolysis ovens (Ovens 1 through 20) shall not exceed 2,611 tons of shredded rubber charge per twelve (12) consecutive month period

<table>
<thead>
<tr>
<th>Pyrolysis Ovens ID</th>
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<th>Column 1 + Column 2</th>
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<td>Oven 20</td>
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- No deviation occurred in this quarter.

- Deviation/s occurred in this quarter.
  Deviation has been reported on: ____________________________

Submitted by: ____________________________
Title / Position: ____________________________
Signature: ____________________________
Date: ____________________________
Phone: ____________________________
INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF AIR QUALITY
COMPLIANCE AND ENFORCEMENT BRANCH

FESOP Quarterly Report

Source Name: Pyrolyx USA Indiana LLC
Source Address: 4150 East Steelton Avenue, Terre Haute, Indiana 47805
FESOP Permit No.: F167-38034-00160
Facility: Plant 1 Pyrolysis Ovens (Oven 1 through Oven 20)
Parameter: Shredded Rubber Charge
Limit: The combined rubber charge through Plant 1 Pyrolysis Ovens 1 through 20
shall not exceed 52,211 tons of shredded rubber charge per twelve (12) consecutive month period

QUARTER: _____________________ YEAR: _____________________

<table>
<thead>
<tr>
<th>Month</th>
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☐ No deviation occurred in this quarter.

☐ Deviation/s occurred in this quarter.
  Deviation has been reported on: __________________________

Submitted by: _________________________________________
Title / Position: _______________________________________
Signature: ____________________________________________
Date: ________________________________________________
Phone: _______________________________________________
INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF AIR QUALITY
COMPLIANCE AND ENFORCEMENT BRANCH

FESOP Quarterly Report

Source Name: Pyrolyx USA Indiana LLC
Source Address: 4150 East Steelton Avenue, Terre Haute, Indiana 47805
FESOP Permit No.: F167-38034-00160
Facility: Plant 2 Pyrolysis Ovens (Oven 21 through Oven 40)
Parameter: Shredded Rubber Charge
Limit: The combined rubber charge through Plant 2 Pyrolysis Ovens 21 through 40 shall not exceed 52,211 tons of shredded rubber charge per twelve (12) consecutive month period

QUARTER: _______________________ YEAR: _______________________

<table>
<thead>
<tr>
<th>Month</th>
<th>Column 1</th>
<th>Column 2</th>
<th>Column 1 + Column 2</th>
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</thead>
<tbody>
<tr>
<td>Rubber Charge This Month</td>
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<td>Rubber Charge 12 Month Total</td>
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☐ No deviation occurred in this quarter.

☐ Deviation/s occurred in this quarter.

Deviation has been reported on: ________________________

Submitted by: ________________________
Title / Position: ________________________
Signature: _____________________________
Date: ________________________________
Phone: _______________________________
INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT  
OFFICE OF AIR QUALITY  
COMPLIANCE AND ENFORCEMENT BRANCH  

FESOP Quarterly Report

Source Name: Pyrolyx USA Indiana LLC  
Source Address: 4150 East Steelton Avenue, Terre Haute, Indiana 47805  
FESOP Permit No.: F167-38034-00160  
Facility: Desulfurization Removal System – Pyrolysis Ovens (Oven 1 through Oven 20)  
Desulfurization Removal System, identified as DS-1 for Plant 1 Pyrolysis Ovens 1 through Oven 20  
Parameter: Bypass Hours Desulfurization Removal System  
Limit: Bypass limit of maximum of 100 hours per twelve (12) consecutive month period, with compliance determined at the end of each month.

<table>
<thead>
<tr>
<th>QUARTER:</th>
<th>YEAR:</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Month/ Date</th>
<th>No. Hours Bypass This Month</th>
<th>No. Hours Bypass Previous 11 Months</th>
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</thead>
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- ☐ No deviation occurred in this quarter.
- ☐ Deviation/s occurred in this quarter.  
  Deviation has been reported on:

Submitted by: ________________________________
Title / Position: ________________________________
Signature: ________________________________
Date: ________________________________
Phone: ________________________________
INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF AIR QUALITY
COMPLIANCE AND ENFORCEMENT BRANCH

FESOP Quarterly Report

Source Name: Pyrolyx USA Indiana LLC
Source Address: 4150 East Steelton Avenue, Terre Haute, Indiana 47805
FESOP Permit No.: F167-38034-00160
Facility: Desulfurization Removal System, identified as DS-2 for Plant 2 Pyrolysis Ovens 21 through Oven 40
Parameter: Bypass Hours Desulfurization Removal System
Limit: Bypass limit of maximum of 100 hours per twelve (12) consecutive month period, with compliance determined at the end of each month.

QUARTER : YEAR:

<table>
<thead>
<tr>
<th>Month/Date</th>
<th>No. Hours Bypass This Month</th>
<th>No. Hours Bypass Previous 11 Months</th>
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</table>

☐ No deviation occurred in this quarter.
☐ Deviation/s occurred in this quarter.
Deviation has been reported on:

Submitted by: ________________________________
Title / Position: ________________________________
Signature: ________________________________
Date: ________________________________
Phone: ________________________________
INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT  
OFFICE OF AIR QUALITY  
COMPLIANCE AND ENFORCEMENT BRANCH  

FESOP Quarterly Report

Source Name: Pyrolyx USA Indiana LLC  
Source Address: 4150 East Steelton Avenue, Terre Haute, Indiana 47805  
FESOP Permit No.: F167-38034-00160  
Facility: Pyrolysis Ovens (Oven 1 through Oven 20)  
Parameter: Hazardous Air Pollutants  
Limit: Combined total HAPs shall not exceed 21.0 tons per twelve (12) consecutive month period, with compliance determined at the end of each month. 
Combined single HAP shall not exceed 9.0 tons per twelve (12) consecutive month period, with compliance determined at the end of each month.

<table>
<thead>
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<th>QUARTER :</th>
<th>YEAR:</th>
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<table>
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<th>Month</th>
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<td>Worst Highest Single HAP This Month</td>
<td>Worst Highest Single HAP Previous 11 Months</td>
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|             | Deviation/s occurred in this quarter.  
Deviation has been reported on: |

Submitted by: ________________________________  
Title / Position: ________________________________  
Signature: ________________________________  
Date: ________________________________  
Phone: ________________________________
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 July 30, 2019.

The construction and operation of this proposed revision shall be subject to the conditions of the attached proposed FESOP Significant Permit Revision No. 167-41726-00160. The staff recommends to the Commissioner that the FESOP Significant Permit Revision be approved.

IDEM Contact

(a) If you have any questions regarding this permit, please contact Aida DeGuzman, 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 4972 or (800) 451-6027, and ask for Aida DeGuzman or (317) 233 4972.

(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: http://www.in.gov/idem/airquality/2356.htm; and the Citizens' Guide to IDEM on the Internet at: http://www.in.gov/idem/6900.htm.
### Appendix A: Emissions Calculations

#### Uncontrolled and Controlled Summaries

**Company Name:** Pyrolyx USA Indiana LLC  
**Source Address:** 4105 East State Street Avenue, Terre Haute, IN 47805  
**Permit Revision:** 167-41726-00160  
**Reviewer:** Aida DeGuzman

### Emission Units

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<th>PM2.5</th>
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<th>NOx</th>
<th>VOC</th>
<th>CO</th>
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<th>Hexane = Highest Single HAP</th>
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#### Uncontrolled Potential to Emit (ton/year)

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### Hexane = Highest Single HAP
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Includes Bypass SO2 emissions of 4.53 tons/yr

1 HAP Limits are combined for all 40 Pyrolysis Ovens

2 HAP Limits are combined for all 80 Pyrolysis Ovens

326 IAC 2-8-4 (ltm)

326 IAC 2-2 (ltm)
### Appendix A: Emissions Calculations

#### HAP Summary

**Company Name:** Pyrolyx USA Indiana LLC  
**Source Address:** 4150 East Steelton Avenue, Terre Haute, IN 47805  
**Permit Revision:** 167-41728-00160  
**Reviewer:** Aida DeGuzman

<table>
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<th>Toluene</th>
<th>Ethylbenzene</th>
<th>Xylene</th>
<th>Dichlorobenzene</th>
<th>Formaldehyde</th>
<th>Lead</th>
<th>Cadmium</th>
<th>Chromium</th>
<th>Manganese</th>
<th>Nickel</th>
<th>1,3-Butadiene</th>
<th>Acetaldehyde</th>
<th>Acrolein</th>
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<td>8.68E-05</td>
<td>690.29</td>
</tr>
</tbody>
</table>

#### Highest Single HAP:

<table>
<thead>
<tr>
<th>Emission Units</th>
<th>Hexane</th>
<th>Benzene</th>
<th>Toluene</th>
<th>Ethylbenzene</th>
<th>Xylene</th>
<th>Dichlorobenzene</th>
<th>Formaldehyde</th>
<th>Lead</th>
<th>Cadmium</th>
<th>Chromium</th>
<th>Manganese</th>
<th>Nickel</th>
<th>1,3-Butadiene</th>
<th>Acetaldehyde</th>
<th>Acrolein</th>
<th>472.05</th>
</tr>
</thead>
</table>

### Potential to Emit of HAPs after Issuance (ton/year)

<table>
<thead>
<tr>
<th>Emission Units</th>
<th>Hexane</th>
<th>Benzene</th>
<th>Toluene</th>
<th>Ethylbenzene</th>
<th>Xylene</th>
<th>Dichlorobenzene</th>
<th>Formaldehyde</th>
<th>Lead</th>
<th>Cadmium</th>
<th>Chromium</th>
<th>Manganese</th>
<th>Nickel</th>
<th>1,3-Butadiene</th>
<th>Acetaldehyde</th>
<th>Acrolein</th>
<th>Unit Total Controlled Combined HAPs</th>
<th>Unit Total Limited Combined HAPs</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Plant 1 - Pyrolysis Ovens 1-20</strong></td>
<td>9.00</td>
<td>9.00</td>
<td>9.00</td>
<td>9.00</td>
<td>9.00</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>45.00</td>
<td>21.14</td>
</tr>
<tr>
<td><strong>Plant 2 - Pyrolysis Ovens 21-40</strong></td>
<td>9.13</td>
<td>7.75E-05</td>
<td>1.26E-04</td>
<td>-</td>
<td>-</td>
<td>4.43E-05</td>
<td>0.00</td>
<td>1.85E-05</td>
<td>4.06E-05</td>
<td>5.17E-05</td>
<td>1.40E-05</td>
<td>7.75E-05</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>0.14</td>
</tr>
<tr>
<td><strong>NG Combustion</strong></td>
<td>8.75E-04</td>
<td>3.84E-04</td>
<td>-</td>
<td>2.67E-04</td>
<td>-</td>
<td>1.11E-03</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>3.55E-03</td>
<td>3.55E-03</td>
</tr>
<tr>
<td><strong>Total Limited Single HAP</strong></td>
<td>9.13</td>
<td>9.00</td>
<td>9.00</td>
<td>9.00</td>
<td>9.00</td>
<td>4.43E-05</td>
<td>3.88E-03</td>
<td>1.85E-05</td>
<td>4.06E-05</td>
<td>5.17E-05</td>
<td>1.40E-05</td>
<td>7.75E-05</td>
<td>3.67E-05</td>
<td>7.19E-04</td>
<td>1.58E-04</td>
<td>45.14</td>
<td>21.14</td>
</tr>
</tbody>
</table>

**Limited Highest Single HAP (Hexane):** 9.13  
**Limited Total Combined HAPs:** 21.14
### Appendix A: Emissions Calculations

#### Plant 1 - Rubber Pyrolysis Ovens 1 through 20

<table>
<thead>
<tr>
<th>Source Address: 4150 East Steelton Avenue, Terre Haute, IN 47805</th>
</tr>
</thead>
<tbody>
<tr>
<td>Permit Revision: 167-41728-09180</td>
</tr>
<tr>
<td>Reviewer: Aida DeGuzman</td>
</tr>
</tbody>
</table>

#### Pyrolysis Ovens

<table>
<thead>
<tr>
<th>Non-Condenesible Gas</th>
<th>10% (of shredded rubber charge)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Shredded Rubber Charge</td>
<td>1.98 MT/oven/cycle</td>
</tr>
<tr>
<td>Shredded Rubber Charge</td>
<td>2.16 tons/oven/cycle</td>
</tr>
<tr>
<td>Overs</td>
<td>20</td>
</tr>
<tr>
<td>Batch Cycle</td>
<td>7.25 hours (7 hour and 15 minutes)</td>
</tr>
<tr>
<td>Batches per year per oven</td>
<td>1.208 batches per year per oven</td>
</tr>
<tr>
<td>Shredded Rubber Charge for one oven per year</td>
<td>2.611 tons/year for a single oven</td>
</tr>
<tr>
<td>Total Shredded Rubber Charge per year</td>
<td>52,210.27 tons/year for all ovens</td>
</tr>
<tr>
<td>Non-Condenesible Gas (All Ovens)</td>
<td>5.221 tons/year</td>
</tr>
<tr>
<td>Non-Condenesible Gas (Single Oven)</td>
<td>281.05 tons/year</td>
</tr>
</tbody>
</table>

CO Uncontrolled emissions: 1.59 % (based on analysis performed at the Oregon site)

H2S Concentration: 20,500 ppm (assumed average H2S content)

H2S Concentration: 28,700 mg/m3

NOx Uncontrolled emissions: 0.25 (Thermatjet 7,027,030 burner specification sheet lists this as 0.145)

HAPs Uncontrolled emissions: 6.61 % (based on analysis performed at the Oregon site)

Single HAP (Hexane): 4.52 % (based on analysis performed at the Oregon site)

Other HAPs in Non-Condenesible Gas:

- Benzene: 0.80% (based on analysis performed at the Oregon Site)
- Toluene: 1.07% (based on analysis performed at the Oregon Site)
- Ethylbenzene: 0.11% (based on analysis performed at the Oregon Site)
- Xylene: 0.11% (based on analysis performed at the Oregon Site)

Heat Content of Pyrolysis Gas (for Nox Calculations):

- Heat Content of Pyrolysis Gas (for calculations): 776 MMbtu/MMCF

PM emission factor:

- PM emission factor (lb/mmcf): 1.9 lb/mmscf
- PM emission factor (lb/mmcf): 7.8 lb/mmscf

### Emissions Calculations

#### Methodology:

1. **Design Control Efficiency - Thermal Oxidizer, TO-1**
   - Required Control Efficiency: 70% (98.76%)

2. **Desulfurization 1&2 (for H2S removal)**
   - Required Control Efficiency: 95% (95%)

3. **Pyrolysis Ovens Combined after Control PTE (tons/year)**
   - PM emission factor: 1.9 lb/mmscf
   - PM emission factor: 7.8 lb/mmscf

- **Conversions**
  - 1 MT = 1,10231 US Tons

---

#### Pyrolysis Ovens Before Control (tons/year) (per oven)

<table>
<thead>
<tr>
<th>CO</th>
<th>NOx</th>
<th>PM</th>
<th>PM10</th>
<th>PM2.5</th>
<th>VOC</th>
<th>H2S</th>
<th>SO2</th>
<th>HAPs</th>
<th>Hexane</th>
<th>Benzene</th>
<th>Toluene</th>
<th>Ethylbenzene</th>
<th>Xylene</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pyrolysis Ovens before control (tons/year) (per oven)</td>
<td>4.15</td>
<td>1.37</td>
<td>0.01</td>
<td>0.04</td>
<td>0.04</td>
<td>187.43</td>
<td>10.53</td>
<td>19.82</td>
<td>14.38</td>
<td>9.83</td>
<td>1.74</td>
<td>2.33</td>
<td>0.24</td>
</tr>
<tr>
<td>Pyrolysis Ovens before control (tons/year) (combined)</td>
<td>83.01</td>
<td>27.43</td>
<td>0.22</td>
<td>0.89</td>
<td>0.89</td>
<td>1,748.70</td>
<td>102.82</td>
<td>396.46</td>
<td>345.11</td>
<td>239.59</td>
<td>41.77</td>
<td>55.86</td>
<td>0.24</td>
</tr>
</tbody>
</table>

#### Pyrolysis Ovens After Control (tons/year) combined

- **Desulfuration Unit Bypass Hours 100 hrs/yr**

- **Pyrolysis Ovens Combined after Control PTE (tons/year)**
  - PM emission factor: 1.9 lb/mmscf
  - PM emission factor: 7.8 lb/mmscf

#### Pyrolysis Ovens Combined Limited PTE (tons/year)

<table>
<thead>
<tr>
<th>CO</th>
<th>NOx</th>
<th>PM</th>
<th>PM10</th>
<th>PM2.5</th>
<th>VOC</th>
<th>H2S</th>
<th>SO2</th>
<th>HAPs</th>
<th>Hexane</th>
<th>Benzene</th>
<th>Toluene</th>
<th>Ethylbenzene</th>
<th>Xylene</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pyrolysis Ovens Combined Limited PTE (tons/year)</td>
<td>8.30</td>
<td>27.43</td>
<td>0.22</td>
<td>0.89</td>
<td>0.89</td>
<td>37.57</td>
<td>0.23</td>
<td>19.82</td>
<td>3.45</td>
<td>2.36</td>
<td>0.42</td>
<td>0.56</td>
<td>0.06</td>
</tr>
</tbody>
</table>

#### Conversions

- 1 MT = 1,10231 US Tons

---

#### Pyrolysis Ovens Before Control (tons/year) (combined)

- **CO** = CO Uncontrolled emissions %/100 * Non-condensible gas (all ovens) (tons/year)
- **NOx** = NOx Uncontrolled emissions (lb/MMBFu) * Flow Rate to Thermal Oxidizer 1 m3/hr * 35.31 cuft/m3 * 778 MMbtu/MCF * 1 MCF/1,000,000 cf * 1 MCF/1,000,000 cf
- **PM** = PM emission factor (lb/mmcf) * Flow Rate to Thermal Oxidizer 1 m3/hr * 35.31 cuft/m3 * 778 MMbtu/MCF * 1 MCF/1,000,000 cf
- **SO2** = SO2 Uncontrolled emissions (ton/yr) * (1 - Control efficiency %)
- **HAPs** = HAP Uncontrolled emissions %/100 * Non-condensible gas (all ovens) (tons/year)
- **Hexane** = Hexane (ppm) * Flow Rate to Thermal Oxidizer 1 m3/hr * 8760 hr/yr * 1 g/1000 mg * 1 lb/453.6 g * 1 ton/2000 lb
- **Benzene** = Benzene (ppm) * Flow Rate to Thermal Oxidizer 1 m3/hr * 8760 hr/yr * 1 g/1000 mg * 1 lb/453.6 g * 1 ton/2000 lb
- **Toluene** = Toluene (ppm) * Flow Rate to Thermal Oxidizer 1 m3/hr * 8760 hr/yr * 1 g/1000 mg * 1 lb/453.6 g * 1 ton/2000 lb
- **Ethylbenzene** = Ethylbenzene (ppm) * Flow Rate to Thermal Oxidizer 1 m3/hr * 8760 hr/yr * 1 g/1000 mg * 1 lb/453.6 g * 1 ton/2000 lb
- **Xylene** = Xylene (ppm) * Flow Rate to Thermal Oxidizer 1 m3/hr * 8760 hr/yr * 1 g/1000 mg * 1 lb/453.6 g * 1 ton/2000 lb
### Appendix A: Emissions Calculations

#### Plant 2 Rubber Pyrolysis Ovens 21 through 40

**Company Name:** Pyrolyx USA Indiana LLC  
**Source Address:** 4150 East Steelton Avenue, Terre Haute, IN 47805  
**Permit Revision:** 167-11728-09180  
**Reviewer:** Aida DeGuzman

Non-Condensible Gas 10% (of shredded rubber charge)  
Shredded Rubber Charge 1.96 Mtons/oven/cycle  
Shredded Rubber Charge 2.16 tons/oven/cycle  
Ovens 20  
Batch Cycle 7.25 hours (7 hour and 15 minutes)  
Batches per year per oven 1,208 batches per year per oven  
Shredded Rubber Charge for one oven per year 2,811 ton/year for a single oven  
Total Shredded Rubber Charge per year 52,210.27 ton/year for all ovens  
Non-Condensible Gas (All Ovens) 5.221 ton/year  
Non-Condensible Gas (Single Oven) 2,810.5 ton/year

CO Uncontrolled emissions 1.59% (based on analysis performed at the Oregon site)  
stream (CO2, CO, methane, ethane, water)  
H2S Concentration 28.2% (based on analysis performed at the Oregon site)  
Conversion Ratio from ppm H2S into mg/m3 1.4  
H2S Concentration 28,700 mg/m3  
NOx Uncontrolled emissions 0.3% (based on analysis performed at the Oregon site)  
HAPs Uncontrolled emissions 6.61% (based on analysis performed at the Oregon site)  
Single HAP (hexane) 4.52% (based on analysis performed at the Oregon site)

#### Other HAPs in Non-Condensible Gas

- Benzene 0.80% (based on analysis performed at the Oregon Site)  
- Toluene 1.07% (based on analysis performed at the Oregon Site)  
- Ethylbenzene 0.11% (based on analysis performed at the Oregon Site)  
- Xylene 0.11% (based on analysis performed at the Oregon Site)

Flow Rate to Thermal Oxidizer 1  
Heat Content of Pyrolysis Gas (for NOx Calculations) 778 MMBtu/MMCF  
PM emission factor 1.9 lb/mmBtu (Thermajet TJ27.0300 burner specification sheet lists this as 0.1452785)  
H2S Concentration 70% 98.75% (based on analysis performed at the Oregon Site)

#### Pyrolysis Ovens before Control (ton/year) (per oven)

<table>
<thead>
<tr>
<th> </th>
<th>CO</th>
<th>NOx</th>
<th>PM</th>
<th>PM10</th>
<th>PM2.5</th>
<th>VOC</th>
<th>H2S</th>
<th>SO2</th>
<th>HAPs</th>
<th>Hexane</th>
<th>Benzene</th>
<th>Toluene</th>
<th>Ethylbenzene</th>
<th>Xylene</th>
</tr>
</thead>
<tbody>
<tr>
<td>4.15</td>
<td>1.37</td>
<td>0.01</td>
<td>0.04</td>
<td>0.04</td>
<td>187.43</td>
<td>10.53</td>
<td>19.82</td>
<td>14.38</td>
<td>9.83</td>
<td>1.74</td>
<td>2.33</td>
<td>0.24</td>
<td>0.24</td>
<td></td>
</tr>
</tbody>
</table>

#### Pyrolysis Ovens before Control (ton/year) (combined)

<table>
<thead>
<tr>
<th> </th>
<th>CO</th>
<th>NOx</th>
<th>PM</th>
<th>PM10</th>
<th>PM2.5</th>
<th>VOC</th>
<th>H2S</th>
<th>SO2</th>
<th>HAPs</th>
<th>Hexane</th>
<th>Benzene</th>
<th>Toluene</th>
<th>Ethylbenzene</th>
<th>Xylene</th>
</tr>
</thead>
<tbody>
<tr>
<td>83.01</td>
<td>27.43</td>
<td>0.22</td>
<td>0.89</td>
<td>0.89</td>
<td>1,748.71</td>
<td>210.62</td>
<td>396.46</td>
<td>345.11</td>
<td>235.99</td>
<td>41.77</td>
<td>55.86</td>
<td>5.74</td>
<td>5.74</td>
<td></td>
</tr>
</tbody>
</table>

#### Pyrolysis Ovens after Control (ton/year) (combined)

<table>
<thead>
<tr>
<th> </th>
<th>CO</th>
<th>NOx</th>
<th>PM</th>
<th>PM10</th>
<th>PM2.5</th>
<th>VOC</th>
<th>H2S</th>
<th>SO2</th>
<th>HAPs</th>
<th>Hexane</th>
<th>Benzene</th>
<th>Toluene</th>
<th>Ethylbenzene</th>
<th>Xylene</th>
</tr>
</thead>
<tbody>
<tr>
<td>8.30</td>
<td>27.43</td>
<td>0.22</td>
<td>0.89</td>
<td>0.89</td>
<td>37.5</td>
<td>6.0</td>
<td>19.82</td>
<td>3.45</td>
<td>2.38</td>
<td>0.42</td>
<td>0.56</td>
<td>0.08</td>
<td>0.06</td>
<td></td>
</tr>
</tbody>
</table>

#### Design Control Efficiency - Thermal Oxidizer, TO-2

90%  
Desulfurization Unit, 95%

#### Pyrolysis Ovens after control (combined) Each Pyrolysis Oven Limit (lbs/hour)

<table>
<thead>
<tr>
<th> </th>
<th>HAPs</th>
<th>CO</th>
<th>H2S</th>
<th>SO2</th>
</tr>
</thead>
<tbody>
<tr>
<td>83.01</td>
<td>27.43</td>
<td>0.22</td>
<td>0.89</td>
<td>0.89</td>
</tr>
</tbody>
</table>

#### Pyrolysis Ovens Combined after Control PTE (ton/year)

<table>
<thead>
<tr>
<th> </th>
<th>CO</th>
<th>NOx</th>
<th>PM</th>
<th>PM10</th>
<th>PM2.5</th>
<th>VOC</th>
<th>H2S</th>
<th>SO2</th>
<th>HAPs</th>
<th>Hexane</th>
<th>Benzene</th>
<th>Toluene</th>
<th>Ethylbenzene</th>
<th>Xylene</th>
</tr>
</thead>
<tbody>
<tr>
<td>24.90</td>
<td>46.9</td>
<td>48.33</td>
<td>21</td>
<td>9</td>
<td>single HAP</td>
<td></td>
<td></td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

#### Pyrolysis Ovens Combined Limited PTE (ton/year)

<table>
<thead>
<tr>
<th> </th>
<th>CO</th>
<th>NOx</th>
<th>PM</th>
<th>PM10</th>
<th>PM2.5</th>
<th>VOC</th>
<th>H2S</th>
<th>SO2</th>
<th>HAPs</th>
<th>Hexane</th>
<th>Benzene</th>
<th>Toluene</th>
<th>Ethylbenzene</th>
<th>Xylene</th>
</tr>
</thead>
<tbody>
<tr>
<td>5.69</td>
<td>10.70</td>
<td></td>
<td></td>
<td></td>
<td></td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

#### Conversions

1 MT = 1.10231 US Tons  
1 Assume 100% conversion of H2S to SO2  
24.35 lb SO2/MMCF 64 lb SO2/1 lbmole SO2 34 lb H2S/MMCF  
24.35 lb SO2/MMCF 64 lb SO2/1 lbmole SO2 34 lb H2S/MMCF  
2 HAP Limits are combined for all 40 Pyrolysis Ovens

#### Methodology

**Pyrolysis Ovens Before Control (ton/year) (combined)**

CO = CO Uncontrolled emissions (%/10) * Non-condensible gas (all ovens) (ton/year)  
NOx = NOx Uncontrolled emissions lb/MMBtu * Flow Rate to Thermal Oxidizer 1 m^3/hr * 35.31 cuft/m^3 * 778 MMBtu/1 MMCF * 1 MMCF /1,000,000 cf * 8760 hr/1 yr * 1 ton/2000 lb  
PM = PM Uncontrolled emissions lb/mmscf * Flow Rate to Thermal Oxidizer 1 m^3/hr * 35.31 cuft/m^3 * 8760 hr/1 yr * 1 ton/2,000 lb  
VOC = Non-condensible gas (all ovens) ton/year * VOC % / 100  
H2S = H2S Concentration (ppm) * Flow Rate to Thermal Oxidizer 1 m^3/hr * 35.31 cuft/m^3 * 8760 hr/1 yr * 1 ton/2000 lb  
SO2 = SO2 Concentration (ppm) * Flow Rate to Thermal Oxidizer 1 m^3/hr * 35.31 cuft/m^3 * 8760 hr/1 yr * 1 ton/2000 lb  
HAPs = Non-condensible gas (all ovens) ton/year * HAPs uncontrolled emissions % / 100  
Hexane = Non-condensible gas (all ovens) ton/year * Single HAP (Hexane) % / 100  
Benzene = Non-condensible gas (all ovens) ton/year * Benzene % / 100  
Toluene = Non-condensible gas (all ovens) ton/year * Toluene % / 100  
Ethylbenzene = Non-condensible gas (all ovens) ton/year * Ethylbenzene % / 100  
Xylene = Non-condensible gas (all ovens) ton/year * Xylene % / 100

**Pyrolysis Ovens After Control (ton/year)**  
Each pollutant was divided by 24 ovens from the combined ton per year value to result in the per oven emissions.

**Pyrolysis Ovens After Control (ton/year) combined**

CO = CO Uncontrolled emissions (ton/year) * (1- Control efficiency %)  
VOC = VOC Uncontrolled emissions (ton/year) * (1- Control efficiency %)  
SO2 = SO2 Uncontrolled emissions (ton/year) * (1- Control efficiency %)  
HAPs = HAP Uncontrolled emissions (ton/year) * (1- Control efficiency %)
<table>
<thead>
<tr>
<th>Emission Unit ID</th>
<th>Process</th>
<th>Outlet Grain Loading (gr/dscf)</th>
<th>Maximum Air Flow Rate (scfm)</th>
<th>Design Control Efficiency (%)</th>
<th>Uncontrolled Potential to Emit PM/PM10/PM2.5 (lb/hr)</th>
<th>Controlled Potential to Emit PM/PM10/PM2.5 (ton/yr)</th>
<th>Limited PTE @ 91% Baghouses Control Efficiency PM/PM10/PM2.5</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Plant 1</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>D-07</td>
<td>Milling Line 1</td>
<td>0.01</td>
<td>4,709</td>
<td>99%</td>
<td>40.36</td>
<td>176.79</td>
<td>0.40</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>1.77</td>
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<td></td>
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<td></td>
<td></td>
<td>1.61</td>
</tr>
<tr>
<td>D-08</td>
<td>Hopper storage</td>
<td>0.01</td>
<td>589</td>
<td>99%</td>
<td>5.05</td>
<td>22.11</td>
<td>0.05</td>
</tr>
<tr>
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<td>22.11</td>
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<td>3.03</td>
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</table>

Uncontrolled Potential to Emit PM/PM10/PM2.5: 464.18
Controlled Potential to Emit PM/PM10/PM2.5: 2033.10
Limited PTE @ 91% Baghouses Control Efficiency PM/PM10/PM2.5: 4.64

Uncontrolled Potential to Emit PM/PM10/PM2.5: 20.33
Controlled Potential to Emit PM/PM10/PM2.5: 81.32
Limited PTE @ 91% Baghouses Control Efficiency PM/PM10/PM2.5: 18.57
### Plant 1 Natural Gas Combustion

**Emission Units Stack Number Number of Units Heat Input Capacity (MMBtu/hr)

<table>
<thead>
<tr>
<th>Emission Units</th>
<th>Stack Number</th>
<th>Number of Units</th>
<th>Heat Input Capacity (MMBtu/hr)</th>
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</thead>
<tbody>
<tr>
<td>Pyrolysis Oven 1</td>
<td>U-G-01</td>
<td>1</td>
<td>2.387</td>
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<td>Pyrolysis Oven 2</td>
<td>U-G-02</td>
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<td>2.387</td>
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<td>U-G-04</td>
<td>1</td>
<td>2.387</td>
</tr>
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<td>2.387</td>
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<td>Pyrolysis Oven 12</td>
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<td>2.387</td>
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<td>Pyrolysis Oven 20</td>
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<td>1</td>
<td>2.387</td>
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**Total**

<table>
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<tr>
<th>Plant 1 Total MMBtu/hr</th>
<th>Plant 2 Total MMBtu/hr</th>
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<tbody>
<tr>
<td>47.74</td>
<td>47.74</td>
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</tbody>
</table>

### HHV Potential Throughput

| Emission Units Stack Number Number of Units Heat Input Capacity (MMBtu/hr) |
|------------------------|------------------------|

**HHV (Heat Input Capacity) mmBtu

| Emission Units Stack Number Number of Units Heat Input Capacity (MMBtu/hr) |
|------------------------|------------------------|

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

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

### Hazardous Air Pollutants (HAPs)

**Emission Factors for NOx based on stack tests performed by Air Dynamics June 2019. Stack tests determined 3-hour average NOx emissions of 0.070 and 0.071 lb/hr (30.13 lb/MMcf) for the two ovens tested. Pyrolyx therefore conservatively assumes 32 lb/MMcf, which is equal to the AP-42 emission factor for natural gas-fired units utilizing low NOx burners and flue-gas recirculation.

*0.0705 lb/hr = 2.387 MMBtu/hr = 1020 MMBltu/MMcf = 30.13 lb/MMcf*

**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
### Plant 1 and Plant 2 - Natural Gas Combustion

**Company Name:** Pyrolyx USA Indiana LLC  
**Source Address:** 4150 East Stelletown Avenue, Terre Haute, IN 47805  
**Permit Revision:** 167-41726-00160  
**Reviewer:** Aida DeGuzman

### Emission Units Stack Number Number of Units Heat Input Capacity (MMBtu/hr)

<table>
<thead>
<tr>
<th>Plant 1</th>
<th>Plant 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pellet Dryer 1</td>
<td>Pellet Dryer 2</td>
</tr>
<tr>
<td>G/D-10</td>
<td>G/D-20</td>
</tr>
<tr>
<td>1</td>
<td>1</td>
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<tr>
<td>5.7</td>
<td>5.7</td>
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<tr>
<td>Pilot Flame Thermal Oxidizer 1</td>
<td>Pilot Flame Thermal Oxidizer 2</td>
</tr>
<tr>
<td>P-G-02</td>
<td>P-G-04</td>
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<td>2</td>
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<tr>
<td>0.786</td>
<td>0.786</td>
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<tr>
<td>Comfort Heaters 1 - 12</td>
<td>Comfort Heaters 13 - 24</td>
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<tr>
<td>NA</td>
<td>Fugitive</td>
</tr>
<tr>
<td>12</td>
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<td>0.768</td>
<td>0.768</td>
</tr>
<tr>
<td>Water Boiler NA</td>
<td>Water Boiler 2</td>
</tr>
<tr>
<td>1</td>
<td>Fugitive</td>
</tr>
<tr>
<td>0.13</td>
<td>0.13</td>
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<tr>
<td><strong>Total</strong></td>
<td><strong>Total</strong></td>
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<tr>
<td>8.598</td>
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**HHV**

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<tr>
<th>Heat Input Capacity MMBtu/hr</th>
<th>Potential Throughput MMCF/yr</th>
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<td>8.6</td>
<td>1020</td>
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**Pollutant**

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<tr>
<th>PM*</th>
<th>PM10*</th>
<th>direct PM2.5*</th>
<th>SO2</th>
<th>NOx</th>
<th>VOC</th>
<th>CO</th>
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</thead>
<tbody>
<tr>
<td>1.9</td>
<td>7.6</td>
<td>7.6</td>
<td>0.6</td>
<td>100</td>
<td>5.5</td>
<td>84</td>
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</tbody>
</table>

**PTE Plant 1 (tons/yr)**

| 0.07 | 0.28 | 0.28 | 0.02 | 3.69 | 0.20 | 3.10 |

**PTE Plant 2 (tons/yr)**

| 0.07 | 0.28 | 0.28 | 0.02 | 3.69 | 0.20 | 3.10 |

**TOTAL PTE (tons/yr)**

| 0.14 | 0.56 | 0.56 | 0.04 | 7.38 | 0.41 | 6.20 |

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

### Hazardous Air Pollutants (HAPs)

**HAPs - Organics**

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<thead>
<tr>
<th>Benzene</th>
<th>Dichlorobenzene</th>
<th>Formaldehyde</th>
<th>Hexane</th>
<th>Toluene</th>
<th>Total - Organics</th>
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</thead>
<tbody>
<tr>
<td>2.1E-03</td>
<td>1.2E-03</td>
<td>7.5E-02</td>
<td>1.8E-00</td>
<td>3.4E-03</td>
<td>0.07</td>
</tr>
</tbody>
</table>

**Potential Emission in tons/yr**

| 7.8E-05 | 4.4E-05 | 2.8E-03 | 1.3E-04 | 0.07 |

**HAPs - Metals**

<table>
<thead>
<tr>
<th>Lead</th>
<th>Cadmium</th>
<th>Chromium</th>
<th>Manganese</th>
<th>Nickel</th>
<th>Total - Metals</th>
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</thead>
<tbody>
<tr>
<td>5.0E-04</td>
<td>1.1E-03</td>
<td>1.4E-03</td>
<td>3.8E-04</td>
<td>2.1E-03</td>
<td>2.0E-04</td>
</tr>
</tbody>
</table>

**PTE Each Plant (tons/yr)**

| 1.8E-05 | 4.1E-05 | 5.2E-05 | 1.4E-05 | 7.8E-05 | 2.0E-04 |

**Combined Plants 1 and 2**

| Total HAPs | 0.14 |

**Combined Plants 1 and 2 Highest HAP**

| Hexane | 0.13 |

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: Emission Calculations

Reciprocating Internal Combustion Engines - Diesel Fuel
Output Rating (=<600 HP)
Maximum Input Rate (=<4.2 MMBtu/hr)

Company Name: Pyrolyx USA Indiana LLC
Address City IN Zip: 4150 East Steelton Avenue, Terre Haute, IN 47805
Permit Revision: 167-41726-00160
Reviewer: Aida DeGuzman

<table>
<thead>
<tr>
<th>Emission Unit/ID</th>
<th>hp</th>
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<tbody>
<tr>
<td>Plant 1 - EmGen</td>
<td>268</td>
</tr>
<tr>
<td>Plant 2 - EmGen #2</td>
<td>268</td>
</tr>
<tr>
<td>Total</td>
<td>536</td>
</tr>
</tbody>
</table>

Output Horsepower Rating (hp) 536.0  
Maximum Hours Operated per Year 500  
Potential Throughput (hp-hr/yr) 268,000

<table>
<thead>
<tr>
<th>Pollutant</th>
<th>PM*</th>
<th>PM10*</th>
<th>direct PM2.5*</th>
<th>SO2</th>
<th>NOx</th>
<th>VOC</th>
<th>CO</th>
</tr>
</thead>
<tbody>
<tr>
<td>Emission Factor in lb/hp-hr</td>
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<td>0.0022</td>
<td>0.0022</td>
<td>0.0021</td>
<td>0.0310</td>
<td>0.0025</td>
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<td>Potential Emission in tons/yr</td>
<td>0.29</td>
<td>0.29</td>
<td>0.29</td>
<td>0.27</td>
<td>4.15</td>
<td>0.34</td>
<td>0.90</td>
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</table>

*PM and PM2.5 emission factors are assumed to be equivalent to PM10 emission factors. No information was given regarding which method was used to determine the factor or the fraction of PM10 which is condensable.

Hazardous Air Pollutants (HAPs)

<table>
<thead>
<tr>
<th>Pollutant</th>
<th>Benzene</th>
<th>Toluene</th>
<th>Xylene</th>
<th>1,3-Butadiene</th>
<th>Formaldehyde</th>
<th>Acetaldehyde</th>
<th>Acrolein</th>
<th>Total PAH HAPs***</th>
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<tbody>
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<td>Emission Factor in lb/hp-hr****</td>
<td>6.53E-06</td>
<td>2.86E-06</td>
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<td>Potential Emission in tons/yr</td>
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</tbody>
</table>

***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 Table 3.3-1).

Potential Emission of Total HAPs (tons/yr) 3.63E-03

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]
Volatile Organic Compound (VOC) Emissions From Storage Tanks (Working and Breathing Losses) Using US EPA TANKS Version 4.09 program*

VOC emissions from storage tanks were determined by using US EPA TANKS Version 4.09 program.

<table>
<thead>
<tr>
<th>Storage Tank ID</th>
<th>Product Stored</th>
<th>Tank Type</th>
<th>Tank Color/Shade</th>
<th>Tank Dimensions (ft x ft)</th>
<th>Maximum Liquid Volume (gallons)</th>
<th>Turnovers per year</th>
<th>Product Throughput (gallons/yr)</th>
<th>VOC Working Losses (lbs/yr)</th>
<th>VOC Breathing Losses (lbs/yr)</th>
<th>Total VOC Losses (lbs/yr)</th>
<th>VOC Working Losses (tons/yr)</th>
<th>VOC Breathing Losses (tons/yr)</th>
<th>Total VOC Losses (tons/yr)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Plant 1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tank 1</td>
<td>Pyrolysis Oil</td>
<td>VFRT</td>
<td>White/White</td>
<td>30 x 13.92</td>
<td>34,104</td>
<td>52.00</td>
<td>1,773,408</td>
<td>23.81</td>
<td>1.19</td>
<td>25</td>
<td>0.012</td>
<td>0.001</td>
<td>0.013</td>
</tr>
<tr>
<td>Tank 2</td>
<td>Pyrolysis Oil</td>
<td>VFRT</td>
<td>White/White</td>
<td>30 x 13.92</td>
<td>34,104</td>
<td>52.00</td>
<td>1,773,408</td>
<td>23.81</td>
<td>1.19</td>
<td>25</td>
<td>0.012</td>
<td>0.001</td>
<td>0.013</td>
</tr>
<tr>
<td>Tank 3</td>
<td>Pyrolysis Oil</td>
<td>VFRT</td>
<td>White/White</td>
<td>30 x 13.92</td>
<td>34,104</td>
<td>52.00</td>
<td>1,773,408</td>
<td>23.81</td>
<td>1.19</td>
<td>25</td>
<td>0.012</td>
<td>0.001</td>
<td>0.013</td>
</tr>
</tbody>
</table>

**ND** = Not Determined. Emissions from VFD05 are already accounted for through the other tanks. This tank holds only off-specification fuel that are found in the other tanks.

**Methodology**
- Includes any vapor loss between underground tank and gas pump
- The gasoline throughput was provided by the source.

**PTE of VOC (tons/yr) = [Gasoline Throughput (kgal/yr)] * [Emission Factor (lb/kgal)] * [ton/2000 lb]**

**Abbreviations**
- PTE = Potential to Emit
Appendix A: Emissions Calculations

Company Name: Pyrolyx USA Indiana LLC
Source Address: 4150 East Steelton Avenue, Terre Haute, IN 47805
Permit Revision: 167-41726-00160
Reviewer: Aida DeGuzman

Emission Source | Circulation Rate (gal/min) | Total Dissolved Solids (TDS) of the circulating water (lb/gal) | Drift Loss % | Density of Water (lb/gal) | Maximum Operation (min/hr) | Potential to Emit PM (lb/hr) | Potential to Emit PM10 (ton/yr) | Potential to Emit PM2.5 (ton/yr) |
--- | --- | --- | --- | --- | --- | --- | --- | --- |
Plant 1 - Cooling Tower 1 | 84.32 | 0.012 | 0.02% | 8.34 | 60 | 0.10 | 0.44 | 0.28 | 9.47E-04 |
Plant 2 - Cooling Tower 2 | 84.32 | 0.012 | 0.02% | 8.34 | 60 | 0.10 | 0.44 | 0.28 | 9.47E-04 |
Total | 0.89 | 0.56 | 1.89E-03 |

PM10 = PM = PM2.5

Methodology
Potential to Emit PM (lb/hr) = Circulation Rate (gal/min) * Total Dissolved Solids (TDS) of the circulating water (lb/gal) * Drift Loss % * Density of Water (lb/gal) * Maximum Operation (min/hr)  
Potential to Emit PM (ton/yr) = Potential to Emit PM, PM10, PM2.5 (lb/hr) * 8760hr/1yr * 1ton/2000lb  
Potential to Emit PM10/PM2.5 (ton/yr) = Potential to Emit PM * EPRI % Mass

INPUT MAXIMUM TDS CONCENTRATION

Max TDS = 2,000 ppmw

<table>
<thead>
<tr>
<th>EPRI Droplet Diameter (µm)</th>
<th>EPRI Droplet Volume (µm³)</th>
<th>EPRI Mass Diameter (µm)</th>
<th>EPRI Mass Volume (µm³)</th>
<th>Mass of Solids (µg)</th>
<th>Mass of Solids (µg)</th>
<th>EPRI % Mass Smaller</th>
</tr>
</thead>
<tbody>
<tr>
<td>10</td>
<td>524</td>
<td>5.24E-04</td>
<td>1.05E-06</td>
<td>0.48</td>
<td>0.969</td>
<td>0.000</td>
</tr>
<tr>
<td>20</td>
<td>4189</td>
<td>4.19E-03</td>
<td>8.38E-06</td>
<td>8.34</td>
<td>60</td>
<td></td>
</tr>
</tbody>
</table>

Interpolation ---> 2.500 0.213

0.213 % of PM is PM2.5

Interpolation ---> 0.000 63.501

63.501 % of PM is PM10

Calculations based on approach presented in: Calculating Realistic PM10 Emissions from Cooling Towers
Joel Reisman and Gordon Frisbie, Environmental Progress (Vol 21, No 2), July 2002
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)

<table>
<thead>
<tr>
<th>Type</th>
<th>Maximum number of vehicles per day</th>
<th>Number of one-way trips per day per vehicle</th>
<th>Maximum trips per day (trip/day)</th>
<th>Maximum Weight Loaded (tons/trip)</th>
<th>Total Weight driven per day (ton/day)</th>
<th>Maximum one-way distance (feet/trip)</th>
<th>Maximum one-way distance (miles/day)</th>
<th>Maximum one-way miles (miles/yr)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tire Shred Delivery</td>
<td>6.0</td>
<td>3.0</td>
<td>18.0</td>
<td>40.0</td>
<td>720.0</td>
<td>750</td>
<td>0.142</td>
<td>2.9</td>
</tr>
<tr>
<td>Recovered Carbon Black Removal</td>
<td>6.0</td>
<td>1.0</td>
<td>6.0</td>
<td>40.0</td>
<td>240.0</td>
<td>1550</td>
<td>0.294</td>
<td>1.8</td>
</tr>
<tr>
<td>Tire Derived Oil Removal</td>
<td>6.0</td>
<td>1.0</td>
<td>6.0</td>
<td>40.0</td>
<td>240.0</td>
<td>1550</td>
<td>0.294</td>
<td>1.8</td>
</tr>
<tr>
<td>Scrap Metal Removal</td>
<td>4.0</td>
<td>1.0</td>
<td>4.0</td>
<td>40.0</td>
<td>160.0</td>
<td>1550</td>
<td>0.294</td>
<td>1.2</td>
</tr>
</tbody>
</table>

**Totals:** 34.0 1360.0 7.3 2647.6

Average Vehicle Weight Per Trip = 40.0 tons/trip

Average Miles Per Trip = 40.0 / 5280 = 0.076 miles/trip

Unmitigated Emission Factor, $ Ef = \left[ k \cdot (sL)^{0.91} \cdot W^{1.02} \right] \quad \text{(Equation 1 from AP-42 13.2.1)}$

where $\begin{align*} k & = 0.011 \\
W & = 40.0 \quad \text{tons} \\
sL & = 9.7 \quad \text{g/m}^2 \end{align*}$

Taking natural mitigation due to precipitation into consideration, Mitigated Emission Factor, $E_{ext} = Ef \cdot \left[1 - \frac{p}{4N}\right] \quad \text{(Equation 2 from AP-42 13.2.1)}$

where $p = 125 \quad \text{days of rain greater than or equal to 0.01 inches (see Fig. 13.2.1-2)}$

$N = 365 \quad \text{days per year}$

Mitigated Emission Factor, $E_{ext} = Ef \cdot \left[1 - \frac{p}{4N}\right]$

<table>
<thead>
<tr>
<th>Process</th>
<th>Unmitigated PTE of PM (tons/yr)</th>
<th>Unmitigated PTE of PM10 (tons/yr)</th>
<th>Unmitigated PTE of PM2.5 (tons/yr)</th>
<th>Mitigated PTE of PM (tons/yr)</th>
<th>Mitigated PTE of PM10 (tons/yr)</th>
<th>Mitigated PTE of PM2.5 (tons/yr)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tire Shred Delivery</td>
<td>1.75</td>
<td>0.35</td>
<td>0.09</td>
<td>1.60</td>
<td>0.32</td>
<td>0.08</td>
</tr>
<tr>
<td>Recovered Carbon Black Removal</td>
<td>1.20</td>
<td>0.24</td>
<td>0.06</td>
<td>1.10</td>
<td>0.22</td>
<td>0.05</td>
</tr>
<tr>
<td>Tire Derived Oil Removal</td>
<td>1.20</td>
<td>0.24</td>
<td>0.06</td>
<td>1.10</td>
<td>0.22</td>
<td>0.05</td>
</tr>
<tr>
<td>Scrap Metal Removal</td>
<td>0.80</td>
<td>0.16</td>
<td>0.04</td>
<td>0.73</td>
<td>0.15</td>
<td>0.04</td>
</tr>
</tbody>
</table>

**Totals:** 4.96 0.99 0.24 4.53 0.91 0.22

### Methodology

- **Total Weight driven per day (ton/day)** = \[
\text{Maximum Weight Loaded (tons/trip)} \cdot \text{Total Weight driven per day (ton/day)}
\]
- **Maximum one-way distance (mi/trip)** = \[
\text{Maximum one-way distance (feet/trip)} / 5280 \text{ ft/mile}
\]
- **Maximum one-way miles (miles/day)** = \[
\text{Maximum trips per year (trip/day)} \cdot \text{Maximum one-way distance (mi/trip)}
\]
- **Average Vehicle Weight Per Trip (ton/trip)** = \[
\text{Total Weight driven per day (ton/day)} / \text{Total Weight driven per day (ton/day)}
\]
- **Average Miles Per Trip (mi/yr)** = \[
\text{SUM(Minimum Weight driven per day (ton/day))} / 365 \text{ days per year}
\]
- **Unmitigated PTE (tons/yr)** = \[
\text{Maximum one-way miles (miles/yr)} \cdot \text{Unmitigated Emission Factor (lb/mile)} \cdot \text{Maximum one-way miles (miles/yr)}
\]
- **Mitigated PTE (tons/yr)** = \[
\text{Maximum one-way miles (miles/yr)} \cdot \text{Mitigated Emission Factor (lb/mile)} \cdot \text{Maximum one-way miles (miles/yr)}
\]

### Abbreviations

- PM = Particulate Matter
- PM10 = Particulate Matter (<10 um)
- PM2.5 = Particulate Matter (<2.5 um)
- PTE = Potential to Emit
Appendix B – BACT Analyses

Significant Revision to a Federally Enforceable State Operating Permit (FESOP)

### Source Background and Description

<table>
<thead>
<tr>
<th>Source Name:</th>
<th>Pyrolyx USA Indiana, LLC</th>
</tr>
</thead>
<tbody>
<tr>
<td>Source Location:</td>
<td>4150 East Steelton Ave., Terre Haute, IN 47805</td>
</tr>
<tr>
<td>County:</td>
<td>Vigo</td>
</tr>
<tr>
<td>SIC Code:</td>
<td>2895 (Carbon Black)</td>
</tr>
<tr>
<td>Operation Permit No.:</td>
<td>F167-38034-00160</td>
</tr>
<tr>
<td>Issuance Date:</td>
<td>May 18, 2017</td>
</tr>
<tr>
<td>Significant Permit Revision No:</td>
<td>167-41726-00160</td>
</tr>
<tr>
<td>Permit Reviewer:</td>
<td>Aida DeGuzman</td>
</tr>
</tbody>
</table>

### Requirement for Best Available Control Technology (BACT)

On May 18, 2017, the Office of Air Quality (OAQ) issued a NSC/FESOP No. F167-38034-00160 to allow Pyrolyx USA Indiana, LLC to construct and operate a greenfield stationary shredded rubber pyrolysis facility. The pyrolysis facility will recover carbon black, steel, and oil from shredded rubber feedstock as the finished product. The source is in the process of starting up operations.

Pyrolyx is proposing to expand its plant by constructing an identical carbon black production plant, identified as Plant 2 in Terre Haute, Indiana. The proposed pyrolysis ovens in the new plant will be subject to 326 IAC 8-1-6 (New facilities; general reduction requirements), since each potential VOC emissions equal to or greater than 25 tons per year. In addition, the source requested a re-evaluation of its current BACT for Plant 1 Pyrolysis Ovens 1 through 20 to change the individual oven shredded rubber charge limit of 2,611 tons/year to a combined shredded rubber charge limit and is also requesting to revise the minimum destruction efficiency of the thermal oxidizer.

### Emission Units

The following are the proposed new emission units subject to 326 IAC 8-1-6:

**Plant 2:**

(a) Twenty (20) natural gas-fired Pyrolysis Ovens identified as oven 21 through oven 40, each approved in 2019 for construction, each with a maximum rated heat input capacity of 2.387 MMBtu per hour and each with maximum capacity of 2.16 tons per batch of shredded rubber charge, with each oven having their own condenser, collectively vented to a desulfurization system (DS-2) for process emissions SO2 control, collectively using a thermal oxidizer (TO-2) for process emissions VOC and HAP control, and combustion emissions exhausting to a flue gas stack and vent stack for each oven identified as U-G-01b through U-G-20b for the flue gas stacks and U-G-21b through U-G-40b for the vent stacks.
In addition, the source requested a re-evaluation of its current BACT for the following permitted emission units:

(a) Twenty (20) natural gas-fired Pyrolysis Ovens identified as oven 1 through oven 20, each approved in 2019 for construction, each with a maximum rated heat input capacity of 2.387 MMBtu per hour and each with maximum capacity of 2.16 tons per batch of shredded rubber charge, with each oven having its own condenser, collectively vented to a desulfurization system (DS-1) for process emissions SO2 control, collectively using a thermal oxidizer (TO-1) for process emissions VOC and HAP control, and combustion emissions exhausting to a flue gas stack and vent stack for each oven identified as U-G-01 through U-G-20 for the flue gas stacks and U-G-21 through U-G-40 for the vent stack.

Summary of the Best Available Control Technology (BACT) Process

BACT is an emissions limitation based on the maximum degree of pollution reduction of emissions, which is achievable on a case-by-case basis. BACT analysis takes into account the energy, environmental, and economic impacts on the source. These reductions may be determined through the application of available control techniques, process design, work practices, and operational limitations. Such reductions are necessary to demonstrate that the emissions remaining after application of BACT will not cause or contribute significantly to air pollution, thereby protecting public health and the environment.

Federal guidance on BACT requires an evaluation that follows a “top down” process. In this approach, the applicant identifies the best-controlled similar source on the basis of controls required by regulation or permit, or controls achieved in practice. The highest level of control is then evaluated for technical feasibility.

The BACT analysis was based on the draft “Top-Down Approach: BACT Guidance” published by USEPA, Office of Air Quality Planning Standards, March 15, 1990 and based on the following sources of information which were reviewed or contacted:

1. USEPA RACT/BACT/LAER (RBLC) Clearinghouse database;
2. EPA’s New Source Review Website
3. In-house experts
4. State air regulatory agency contacts
5. Technical articles and publications
7. Guidance documents and personal communications with federal and state agencies

The five (5) basic steps of a top-down BACT analysis used by the Office of Air Quality (OAQ) to make BACT determinations are listed below:

Step 1: Identify Potential Control Technologies
The first step is to identify potentially “available” control options for each emission unit and for each pollutant under review. Available options should consist of a comprehensive list of those technologies with a potentially practical application to the emissions unit in question. The list should include lowest achievable emission rate (LAER) technologies, innovative technologies, and controls applied to similar source categories.
Step 2: Eliminate Technically Infeasible Options
The second step is to eliminate technically infeasible options from further consideration. To be considered feasible, a technology must be both available and applicable. It is important in this step that any presentation of a technical argument for eliminating a technology from further consideration be clearly documented based on physical, chemical, engineering, and source-specific factors related to safe and successful use of the controls. Innovative control means a control that has not been demonstrated in a commercial application on similar units. Innovative controls are normally given a waiver from the BACT requirements due to the uncertainty of actual control efficiency. A control technology is considered available when there are sufficient data indicating that the technology results in a reduction in emissions of regulated pollutants.

Step 3: Rank the Remaining Control Technologies by Control Effectiveness
The third step is to rank the technologies not eliminated in Step 2 in order of descending control effectiveness for each pollutant of concern. The ranked alternatives are reviewed in terms of environmental, energy, and economic impacts specific to the proposed modification. If the analysis determines that the evaluated alternative is not appropriate as BACT due to any of the impacts, then the next most effective is evaluated. This process is repeated until a control alternative is chosen as BACT. If the highest ranked technology is proposed as BACT, it is not necessary to perform any further technical or economic evaluation, except for the environmental analyses.

Step 4: Evaluate the Most Effective Controls and Document the Results
The fourth step entails an evaluation of energy, environmental, and economic impacts for determining a final level of control. The evaluation begins with the most stringent control option and continues until a technology under consideration cannot be eliminated based on adverse energy, environmental, or economic impacts.

The economic or “cost effectiveness” analysis is conducted in a manner consistent with EPA’s OAQPS Control Cost manual, Sixth Edition and subsequent revisions.

Cost effectiveness is expressed in terms of dollar per ton ($/ton) of pollutant removed.

For the technologies determined to be feasible, there may be several different limits that have been set as BACT for the same control technology. The permitting agency has to choose the most stringent limit as BACT unless the applicant demonstrates in a convincing manner why that limit is not feasible. BACT must, at a minimum, be no less stringent than the level of control required by any applicable New Source Performance Standard (NSPS) and National Emissions Standard for Hazardous Air Pollutants (NESHAP) or state regulatory standards applicable to the emission units included in the permits.

Step 5: Select BACT
The Office of Air Quality (OAQ) makes final BACT determinations by following the five steps identified above.

VOC BACT – Plant 1 -Pyrolysis Ovens 1-20 and Plant 2 Pyrolysis Ovens 21-40)

Step 1 – Identify Control Options

(a) Wet Scrubbers;
(b) Refrigerated Condenser;
(c) Carbon Adsorption;
Step 2 – Elimination of Infeasible Control Options

(a) **Wet Scrubbers**
A wet scrubber is an effective means of removing soluble or condensable organic vapors in a gas stream. The organics contained in the con-condensable exhaust include a wide variety of organic materials, ranging from methane and ethane to more complex organics such as benzene, toluene and xylene. Although certain of these materials maybe soluble in water, many are not.

Due to the wide variety of organics contained in the non-condensable vapor stream. The use of a wet scrubber is not a technologically feasible control option for the Plant 2 Pyrolysis Ovens 21 through 40. This control option will continue not to be technologically feasible for the Plant 1 Pyrolysis Ovens 1 through 20. Therefore, it will be eliminated from further consideration in this BACT Analysis.

(b) **Refrigerated Condenser**
A refrigerated condenser works by cooling the gas stream to a level where target compounds will condense and can be collected. The organics contained in the non-condensable exhaust stream from the pyrolysis process have already passed through direct contact condensers to remove organics which are condensable at ambient temperature.

While it is technically feasible to utilize additional condensers to further treat this exhaust, the use of such condensers is expected to result in little additional control.

The use of refrigerated condensers has been determined to be technologically feasible control option for the Plant 1 Pyrolysis Ovens 1 through 20. Therefore, this technology is as well technologically feasible control option for the Plant 2 Pyrolysis Ovens 21 through 40. Therefore, it will be considered further in this BACT Analysis for both Plants’ Pyrolysis Ovens 1 through 40.

(c) **Carbon Adsorption**
Carbon adsorption works through a surface reaction between activated carbon and the target compound. Activated carbon has a high surface area for these reactions to occur. In addition, activated carbon has a unique affinity to adsorb each gas constituent known as the adsorption capacity. When the activated carbon becomes saturated (reaches the adsorption capacity for a given gas constituent) then the activated carbon must be regenerated by desorbing the adsorbed compounds. Desorption is accomplished by injecting steam or applying pressure shift in the bed.

Carbon adsorption could be used to control VOC emissions from the pyrolysis process and is a technologically feasible control option for the Plant 2 Pyrolysis Ovens 21 through 40 and will continue to be technologically feasible control option for Plant 1 Pyrolysis Ovens 1 through 20. Therefore, it will be considered further in this BACT Analysis for both Plants’ Pyrolysis Ovens 1 through 40.

(d) **Thermal or Catalytic Oxidation**
Thermal oxidizers, or thermal incinerators, are combustion devices that control VOC, CO, and volatile HAP emissions by combusting them to carbon dioxide (CO2) and water. Thermal oxidizers are similar to catalytic oxidizers (catalytic oxidizers use a catalyst to promote the oxidation reaction). Important design factors include temperature (a
temperature high enough to ignite or destroy the organic constituents in the waste stream), residence time (sufficient time for the combustion reaction to occur), and turbulence or mixing of the combustion air with the waste gas. Regenerative thermal oxidizers use a heat storage media to store heat and thus minimize the required energy input to raise the gas temperature and achieve oxidation of the VOC. Recuperative thermal oxidizers employ a heat exchanger to accomplish the same goal—minimize the required energy input to raise the gas temperature.

Catalytic oxidizers use catalyst to lower the activation energy of the oxidation reaction. The advantage of catalytic oxidizer over a direct thermal, regenerative or recuperative oxidizer is that the reaction temperature are much lower, thus less energy is needed to complete the oxidation reaction. For instance, for a target compound, the oxidation temperature maybe 1500 °F for direct thermal and 700 °F for catalytic oxidizer. The disadvantage of a catalytic system are that the catalyst is prone to degradation and needs periodic replacement. Factors that contribute to catalyst degradation include thermal cycling, and erosion poisoning and fouling from contact with gas constituents.

The use of thermal or catalytic oxidation is a technologically feasible control option for the Plant 2 Pyrolysis Ovens 21 through 40 and will continue to be technologically feasible control option for the Plant 1 Pyrolysis Ovens 1 through 20. Therefore, it will be considered further in this BACT Analysis for both Plants Pyrolysis Ovens 1 through 40.

(e) Flare
Flares use a direct flame to combust organic materials contained in the exhaust stream. They operate in the same principle as thermal oxidizers, but utilize no heat recovery. Flares are classified as open flares and enclosed flares and are used to combust components, mostly hydrocarbons, of waste gases from industrial operations. The waste gases are mixed with an oxidizing agent, typically oxygen in air, and oxidation takes place at the tip of open flares or in the stack of enclosed flares. Waste gases provide the fuel necessary for combustion. The concentration of the waste gas must be greater than the lower flammability limit of the gas. If the concentration of the waste gas is greater than the upper flammability limit, the waste gas needs to be diluted with air prior to reaching the combustion zone for combustion to occur.

The use of flare has been determined to be technologically feasible control option for the Plant 1 Pyrolysis Ovens 1 through 20. Therefore, this technology is as well technologically feasible control option for the Plant 2 Pyrolysis Ovens 21 through 40. Therefore, it will be considered further in this BACT Analysis for both Plants Pyrolysis Ovens 1 through 40.

Step 3 – Rank Remaining Control Technologies by Control Effectiveness

Based on Step 2 above, the remaining viable control options are the following:

(1) Thermal Oxidation -- 98% to 99% Reduction
(2) Flare -- 98% Reduction
(3) Carbon Adsorption -- 95% to 98% Reduction
(4) Refrigerated Condenser -- 10% to 20% Reduction
### Step 4 – Evaluate the Most Effective Controls and Document Results

A review of USEPA’s RACT/BACT/LAER Clearinghouse, including Indiana air permits and sources permitted by other state agencies resulted in the following BACT determinations for Pyrolysis Ovens:

<table>
<thead>
<tr>
<th>RBLC ID</th>
<th>Facility/State</th>
<th>Issued Date</th>
<th>Process Description</th>
<th>Capacity</th>
<th>VOC BACT Limit</th>
<th>Controls</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Proposed SPR 167-41726-00160</strong></td>
<td>Pyrolysis USA, Inc.- Indiana</td>
<td>Proposed</td>
<td>Plant 1 Pyrolysis Ovens 1 -20</td>
<td>Each Oven - 2.387 MMBtu/hr, 2.16 tons/batch of shredded rubber</td>
<td>Pyrolysis Operation Combined Limit of 10.70 lbs/hour and combined 52,211 annual tons of shredded rubber charge for all 20 ovens.</td>
<td>Thermal Oxidizer overall control efficiency of 98.75%</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Plant 2 Pyrolysis Ovens 21 -40</td>
<td>Each Oven - 2.387 MMBtu/hr, 2.16 tons/batch of shredded rubber</td>
<td>Pyrolysis Operation Combined Limit of 10.70 lbs/hour and combined 52,211 annual tons of shredded rubber charge for all 20 ovens.</td>
<td>Thermal Oxidizer overall control efficiency of 98.75%</td>
</tr>
<tr>
<td><strong>SPR 167-40941-00160</strong></td>
<td>Pyrolysis USA, Inc.- Indiana</td>
<td>5/9/19</td>
<td>Pyrolysis Ovens 1-20</td>
<td>Each Oven - 2.387 MMBtu/hr, 2.16 tons/batch of shredded rubber</td>
<td>Pyrolysis Operation Combined Limit of 17.2 lbs/hour and 2,611 annual tons of shredded rubber charge for each oven.</td>
<td>Thermal Oxidizer overall control efficiency of 98%</td>
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<tr>
<td><strong>TX-0621</strong></td>
<td>CABOT Corporation - Pampa Plant - Texas</td>
<td>9/19/12</td>
<td>Carbon Black Production Units 3 and 4</td>
<td>N/A</td>
<td>14.94 lb/hour; control efficiency of 98%</td>
<td>Good Combustion Practices and Flare</td>
</tr>
<tr>
<td><strong>LA-0240</strong></td>
<td>Flopam, Inc.- LA</td>
<td>6/14/10</td>
<td>DADMC/CM/ADAM/ATBS Plants</td>
<td>N/A</td>
<td>99% Control Efficiency; 0.0050 lb/MMBtu</td>
<td>Thermal Oxidizers</td>
</tr>
<tr>
<td><strong>OH-0287</strong></td>
<td>Degussa Corporation - Ohio</td>
<td>11/29/07</td>
<td>Carbon Black Units 3 and 4; Fuel oil</td>
<td>500 gallons per hour</td>
<td>10 lb/hour combined, 43.8 ton/year rolling 12 months, both units together; startup/shutdown emissions for one unit shall not exceed 110 lb/hour and 4.6 ton per year</td>
<td>Thermal Incinerator</td>
</tr>
<tr>
<td><strong>OH-0287</strong></td>
<td>Degussa Corporation - Ohio</td>
<td>11/29/07</td>
<td>Carbon Black Dryer Units 1 and 2; Natural Gas</td>
<td>N/A</td>
<td>19.5 lb/hour for both dryers; 85.4 tpy rolling 12 month, both dryers combined.</td>
<td>None</td>
</tr>
<tr>
<td>RBLC ID</td>
<td>Facility/State</td>
<td>Issued Date</td>
<td>Process Description</td>
<td>Capacity</td>
<td>VOC BACT Limit</td>
<td>Controls</td>
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<tr>
<td>OH-0287</td>
<td>Degussa Corporation - Ohio</td>
<td>11/29/07</td>
<td>Carbon Black Units 1 and 2; Fuel oil</td>
<td>1900 gallons per hour</td>
<td>9.4 lb/hour from both units together; 41.2 tons rolling 12 month from both units together. Startup/shutdown emissions for one unit shall not exceed 380 lb/hour and 15 ton per year; Control efficiency of 98%</td>
<td>Flare</td>
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</tbody>
</table>

The RBLC database identifies a single permit for Flopam, Inc. for a chemical processing unit with a required VOC control efficiency of *99% using thermal oxidizers, however upon contact with the permitting agency it was determined that the control efficiency is 98% for the thermal oxidizer. The process is described as the DADMAC Plant (reactors, receivers, separator, allyl alcohol tank, and distillation column), Chloromethylation (CM) Plant, ADAM and ATBS Plants (Tanks, reactors, dryers, and distillation columns). Although, Pyrolyx is proposing a similar control technology with an overall control efficiency of 98.75%, this source is not comparable with Pyrolyx USA process operations.

All the other remaining similar sources in the RBLC table with the most stringent BACT have combined VOC limit in pounds per hour and the use of thermal oxidizers with overall control efficiency of 98%. Note: The VOC BACT emission limit in pound per hour from the sources in the RBLC table varies based on each source's throughput rate.

**Proposed BACT:**

Pyrolyx USA Indiana, LLC, has proposed the following VOC BACT for the new Plant 2 Pyrolysis Ovens 21 through 40 and existing permitted Plant 1 Pyrolysis Ovens 1 through 20:

The current VOC BACT emission limit for Pyrolyx Plant 1 Pyrolysis Ovens 1 through 20 is a combined Pyrolysis Ovens emission limit of 17.2 pound/hour and individual oven rubber charge of 2,611 tons per twelve consecutive month period. However, due to the difficulty in the demonstration of compliance for the individual oven rubber charge limit, Pyrolyx requests a combined rubber charge limit of 52,211 tons per twelve consecutive month period. Pyrolyx has a central receiving bay for the rubber charge and the rubber charge is conveyed to a loading point on the second story of the building. The oven racks are semi-manually loaded and then each rack is manually moved via the help of an overhead crane to be loaded into each oven. There is no efficient way to track the weight of the rubber charged to individual oven, since it is not done through an automated system.

Since the source is proposing the top control BACT for the Pyrolysis Process no further cost evaluation in regard to other control options is necessary.

Pyrolyx USA Indiana, LLC, has proposed the following VOC BACT for the Plant 1 Pyrolysis Ovens 1 through 20 and Plant 2 Pyrolysis Ovens 21 through 40:

**Plant 1 Pyrolysis Ovens 1 through 20**

(a) The current BACT thermal oxidizer control efficiency of 98% for Plant 1 Pyrolysis Ovens 1 through 20 will be changed to a minimum overall control efficiency of 98.75%.

(b) Plant 1, each Pyrolysis Oven 1 through 20 limit of 2,611 tons of shredded rubber charge per twelve (12) consecutive month period will be changed to a combined rubber charge limit of 52,211 tons per twelve consecutive month period.
(c) The Plant 1 Pyrolysis Ovens 1 through 20 combined VOC emissions limit of 17.2 pounds per hour will be changed to 10.70 pounds per hour.

Plant 2 Pyrolysis Ovens 21 through 40
(a) The Plant 2 Pyrolysis Ovens 21 through 40 shall be controlled by a thermal oxidizer with a minimum overall control efficiency of 98.75%.

(b) The combined rubber charge through Plant 2 Pyrolysis Ovens 21 through 40 shall not exceed 52,211 tons per twelve consecutive month period.

(c) The combined VOC emissions from the Plant 2 Pyrolysis Ovens 21 through 40 (excluding combustion emissions) shall not exceed to 10.70 pounds per hour.

**Step 5 - Select BACT**

Since comparable sources from the table above in Step 4 do not have a feedstock limit, the individual Pyrolysis Oven feedstock limit that was required for Plant 1 Pyrolysis Ovens 1 through 20 will be changed to a combined feedstock limit. Therefore, pursuant to 326 IAC 8-1-6 (New Facilities; General Reduction Requirements, the Permittee shall comply with the following VOC BACT requirements for Plant 1 and Plant 2 Pyrolysis Process:

Plant 1 Pyrolysis Ovens 1 through 20
(a) The Plant 1 Pyrolysis Ovens 1 through 20 shall be controlled by a thermal oxidizer with a minimum overall control efficiency of 98.75%.

(b) The combined rubber charge through Plant 1 Pyrolysis Ovens 1 through 20 shall not exceed 52,211 tons per twelve consecutive month period.

(c) The combined VOC emissions from the Plant 1 Pyrolysis Ovens 1 through 20 (excluding combustion emissions) shall not exceed to 10.70 pounds per hour.

Plant 2 Pyrolysis Ovens 21 through 40
(a) The Plant 2 Pyrolysis Ovens 21 through 40 shall be controlled by a thermal oxidizer with a minimum overall control efficiency of 98.75%.

(b) The combined rubber charge through Plant 2 Pyrolysis Ovens 21 through 40 shall not exceed 52,211 tons per twelve consecutive month period.

(c) The combined VOC emissions from the Plant 2 Pyrolysis Ovens 21 through 40 (excluding combustion emissions) shall not exceed to 10.70 pounds per hour.
October 17, 2019

Mr. Thomas Redd
Pyrolyx USA Indiana, LLC
4150 East Steelton Avenue
Terre Haute, IN  47805

Re: Public Notice
Pyrolyx USA Indiana, LLC
Permit Level: FESOP – Significant Permit Revision
Permit Number: 167-41726-00160

Dear Mr. Redd:

Enclosed is a copy of your draft FESOP – Significant Permit Revision, Technical Support Document, emission calculations, and the Public Notice.

The Public Notice period will begin the date the Notice is published on the IDEM Official Public Notice website. Publication has been requested and is expected within 2-3 business days. You may check the exact Public Notice begins and ends date here: https://www.in.gov/idem/5474.htm

Please note that as of April 17, 2019, IDEM is no longer required to publish the notice in a newspaper.

OAQ has submitted the draft permit package to the Vigo County Public Library, One Library Square in Terre Haute, IN  47807. As a reminder, you are obligated by 326 IAC 2-1.1-6(c) to place a copy of the complete permit application at this library no later than ten (10) days after submittal of the application or additional information to our department. We highly recommend that even if you have already placed these materials at the library, that you confirm with the library that these materials are available for review and request that the library keep the materials available for review during the entire permitting process.

Please review the enclosed documents carefully. This is your opportunity to comment on the draft permit and notify the OAQ of any corrections that are needed before the final decision. Questions or comments about the enclosed documents should be directed to Aida DeGuzman, Indiana Department of Environmental Management, Office of Air Quality, 100 N. Senate Avenue, Indianapolis, Indiana, 46204 or call (800) 451-6027, and ask for extension 3-4972 or dial (317) 233-4972.

Sincerely,

Vicki Biddle
Vicki Biddle
Permits Branch
Office of Air Quality

Enclosures
PN Applicant Cover Letter 4/12/19
October 17, 2019

To: Vigo County Public Library

From: Jenny Acker, Branch Chief
Permits Branch
Office of Air Quality

Subject: **Important Information to Display Regarding a Public Notice for an Air Permit**

**Applicant Name:** Pyrolyx USA Indiana, LLC  
**Permit Number:** 167-41726-00160

Enclosed is a copy of important information to make available to the public. This proposed project is regarding a source that may have the potential to significantly impact air quality. Librarians are encouraged to educate the public to make them aware of the availability of this information. The following information is enclosed for public reference at your library:

- Notice of a 30-day Period for Public Comment
- Draft Permit and Technical Support Document

You will not be responsible for collecting any comments from the citizens. Please refer all questions and request for the copies of any pertinent information to the person named below.

Members of your community could be very concerned in how these projects might affect them and their families. **Please make this information readily available until you receive a copy of the final package.**

If you have any questions concerning this public review process, please contact Joanne Smiddle-Brush, OAQ Permits Administration Section at 1-800-451-6027, extension 3-0185. Questions pertaining to the permit itself should be directed to the contact listed on the notice.

Enclosures
PN Library updated 4/2019
Notice of Public Comment

October 17, 2019
Pyrolyx USA Indiana, LLC
167-41726-00160

Dear Concerned Citizen(s):

You have been identified as someone who could potentially be affected by this proposed air permit. The Indiana Department of Environmental Management, in our ongoing efforts to better communicate with concerned citizens, invites your comment on the draft permit.

Enclosed is a Notice of Public Comment, which has posted on IDEM’s Public Notice website at https://www.in.gov/idem/5474.htm.

The application and supporting documentation for this proposed permit have been placed at the library indicated in the Notice. These documents more fully describe the project, the applicable air pollution control requirements and how the applicant will comply with these requirements.

If you would like to comment on this draft permit, please contact the person named in the enclosed Public Notice. Thank you for your interest in the Indiana’s Air Permitting Program.

Please Note: If you feel you have received this Notice in error, or would like to be removed from the Air Permits mailing list, please contact Patricia Pear with the Air Permits Administration Section at 1-800-451-6027, ext. 3-6875 or via e-mail at PPEAR@IDEM.IN.GOV. If you have recently moved and this Notice has been forwarded to you, please notify us of your new address and if you wish to remain on the mailing list. Mail that is returned to IDEM by the Post Office with a forwarding address in a different county will be removed from our list unless otherwise requested.
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<td>Thomas Redd Pyrolyx USA Indiana LLC 4150 E Steelton Ave Terre Haute IN 47805 (Source CAATS)</td>
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<td>Terre Haute City Council and Mayors Office 17 Harding Ave Terre Haute IN 47807 (Local Official)</td>
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<td>J.P. Roehm PO Box 303 Clinton IN 47842 (Affected Party)</td>
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<td>Mr. Mark Fitton Tribune-Star 222 S. 7th Street Terre Haute IN 47807 (Affected Party)</td>
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<td>Jason R Krawczyk Environmental Resources Management (ERM) 8425 Woodfield Crossing Blvd, Suite 560-W Indianapolis IN 46240 (Consultant)</td>
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