NOTICE OF 30-DAY PERIOD
FOR PUBLIC COMMENT

Preliminary Findings Regarding a New Source Construction and
Part 70 Operating Permit

for Forefront Foam, LLC. in St. Joseph County

Part 70 Operating Permit No.: T141-41690-00610

The Indiana Department of Environmental Management (IDEM) has received an application from Forefront Foam, LLC., located at 1015 Saint Jerome Street, Mishawaka, Indiana 46544, for a new source construction and Part 70 Operating Permit. If approved by IDEM’s Office of Air Quality (OAQ), this proposed permit would allow ForeFront Foam, LLC. to construct and operate a new stationary EPS molded products operation.

The applicant intends to construct and operate new equipment that will emit air pollutants. IDEM has reviewed this application, and has developed preliminary findings, consisting of a draft permit and several supporting documents, that would allow the applicant to make this change.

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

Mishawaka Public Library
209 Lincoln Way East
Mishawaka, Indiana 46544

and

IDEM Northern Regional Office
300 North Dr. Martin Luther King Jr. Boulevard, Suite 450
South Bend, IN 46601-1295

A copy of the preliminary findings is available on the Internet at: 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/ 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) 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 F 163-41617-00219 in all correspondence.

**Comments should be sent to:**

Andrea M. Smith  
IDEM, Office of Air Quality  
100 North Senate Avenue  
MC 61-53 IGCN 1003  
Indianapolis, Indiana 46204-2251  
(800) 451-6027, ask for Andrea M. Smith or (317) 234-8839  
Or dial directly: (317) 234-8839  
Fax: (317) 232-5749 attn: Andrea M. Smith  
E-mail: amsmit@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](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](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, at the IDEM Regional Office 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 Andrea M. Smith of my staff at the above address.

[Signature]

Iryn Cailung, Section Chief  
Permits Branch  
Office of Air Quality
New Source Construction and Part 70 Operating Permit
OFFICE OF AIR QUALITY

Forefront Foam, LLC.
1015 Saint Jerome Street
Mishawaka, Indiana 46544

(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. Noncompliance with any provision of this permit, except any provision specifically designated as not federally enforceable, constitutes a violation of the Clean Air Act. 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 2-7 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.

<table>
<thead>
<tr>
<th>Operation Permit No.: T141-41690-00610</th>
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<td>Master Agency Interest ID: 124771</td>
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<table>
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<tr>
<th>Issued by:</th>
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<tbody>
<tr>
<td>Iryn Calilung, Section Chief</td>
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<tr>
<td>Permits Branch</td>
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<tr>
<td>Office of Air Quality</td>
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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 2-7-4(c)][326 IAC 2-7-5(14)][326 IAC 2-7-1(22)]

The Permittee owns and operates a stationary expandable polystyrene (EPS) molded products operation.

<table>
<thead>
<tr>
<th>Source Address:</th>
<th>1015 Saint Jerome Street, Mishawaka, Indiana 46544</th>
</tr>
</thead>
<tbody>
<tr>
<td>General Source Phone Number:</td>
<td>(616) 293-4974</td>
</tr>
<tr>
<td>SIC Code:</td>
<td>3086 (Plastics Foam Products)</td>
</tr>
<tr>
<td>County Location:</td>
<td>St Joseph</td>
</tr>
<tr>
<td>Source Location Status:</td>
<td>Attainment for all criteria pollutants</td>
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<tr>
<td>Source Status:</td>
<td>Part 70 Operating Permit Program</td>
</tr>
<tr>
<td></td>
<td>Minor Source, under PSD and Emission Offset Rules</td>
</tr>
<tr>
<td></td>
<td>Minor Source, Section 112 of the Clean Air Act</td>
</tr>
<tr>
<td></td>
<td>Not 1 of 28 Source Categories</td>
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</table>

A.2 Emission Units and Pollution Control Equipment Summary [326 IAC 2-7-4(c)(3)][326 IAC 2-7-5(14)]

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

One (1) Expandable Polystyrene (EPS) Production Line, identified a Line 1, consisting of the following:

(a) One (1) Pre-Expanding Unit, identified as PE1, approved in 2020 for construction, with a maximum throughput of 2.40 tons per hour of plastic beads, using no controls, and exhausting indoors.

(b) One (1) Pre-Puff Storage Silo System, identified as SB1, approved in 2020 for construction, with a maximum throughput of 2.40 tons per hour of plastic beads, using no controls, and exhausting indoors.

(c) One (1) Molding Press, identified as MP1, approved in 2020 for construction, with a maximum throughput of 2.40 tons per hour of plastic beads, using no controls, and exhausting indoors.

(1) One (1) Natural Gas-fired Boiler used to heat the Molding Press, identified as B1, approved in 2020 for construction, with a maximum heat input capacity of 12.60 MMBtu per hour, using no controls, and exhausting to stack B1S.

[Under 40 CFR 60, Subpart Dc, this unit is considered an affected source.]

(d) One (1) Final Storage and Aging Area, identified as FSA1, approved in 2020 for construction, with a maximum throughput of 2.40 tons per hour of plastic, using no controls, and exhausting indoors.
A.3 Specifically Regulated Insignificant Activities

This stationary source also includes the following insignificant activities which are specifically regulated, as defined in 326 IAC 2-7-1(21):

(a) Ten (10) Natural Gas-fired Radiant Tube Heaters, identified as TH1 through TH10, approved in 2020 for construction, with a combined maximum heat input capacity of 1.50 MMBtu per hour, using no controls, and exhausting to stacks TH1S through TH10S.

(b) Paved Roads

A.4 Part 70 Permit Applicability [326 IAC 2-7-2]

This stationary source is required to have a Part 70 permit by 326 IAC 2-7-2 (Applicability) because:

(a) It is a major source, as defined in 326 IAC 2-7-1(22);

(b) It is a source in a source category designated by the United States Environmental Protection Agency (U.S. EPA) under 40 CFR 70.3 (Part 70 - Applicability).

(c) It is an affected source under Title IV (Acid Deposition Control) of the Clean Air Act, as defined in 326 IAC 2-7-1(3);
SECTION B  GENERAL CONDITIONS

B.1 Definitions [326 IAC 2-7-1]

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]

This document shall also become the approval to operate pursuant to 326 IAC 2-5.1-4 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 2-7-5(2)][326 IAC 2-1.1-9.5][326 IAC 2-7-4(a)(1)(D)][IC 13-15-3-6(a)]

(a) This permit, T141-41690-00610, 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 or of permits issued pursuant to Title IV of the Clean Air Act and 326 IAC 21 (Acid Deposition Control).

(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, including any permit shield provided in 326 IAC 2-7-15, 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 2-7-7] [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 2-7-5(5)]

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 2-7-5(6)(D)]

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

B.9 Duty to Provide Information [326 IAC 2-7-5(6)(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 2-7-4(f)][326 IAC 2-7-6(1)][326 IAC 2-7-5(3)(C)]

(a) A certification required by this permit meets the requirements of 326 IAC 2-7-6(1) if:

(1) it contains a certification by a "responsible official" as defined by 326 IAC 2-7-1(35), 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) A "responsible official" is defined at 326 IAC 2-7-1(35).

B.11 Annual Compliance Certification [326 IAC 2-7-6(5)]

(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 April 15 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
and

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

(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 2-7-5(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 2-7-6(1) by a "responsible official" as defined by 326 IAC 2-7-1(35).

B.12 Preventive Maintenance Plan [326 IAC 2-7-5(12)][326 IAC 1-6-3]

(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 2-7-6(1) by a "responsible official" as defined by 326 IAC 2-7-1(35).

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 2-7-6(1) by a "responsible official" as defined by 326 IAC 2-7-1(35).

(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.13 Emergency Provisions [326 IAC 2-7-16]

(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.

(b) An emergency, as defined in 326 IAC 2-7-1(12), constitutes an affirmative defense to an action brought for noncompliance with a 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 or Northern Regional Office 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
   Northern Regional Office phone: (574) 245-4870; fax: (574) 245-4877.

(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:
within two (2) working days of the time when emission limitations were exceeded due to the emergency.

The notice fulfills the requirement of 326 IAC 2-7-5(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 2-7-6(1) by a "responsible official" as defined by 326 IAC 2-7-1(35).

(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 2-7-4(c)(8) 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 2-7 and any other applicable rules.

(g) 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.

B.14 Permit Shield [326 IAC 2-7-15][326 IAC 2-7-20][326 IAC 2-7-12]

(a) Pursuant to 326 IAC 2-7-15, the Permittee has been granted a permit shield. The permit shield provides that compliance with the conditions of this permit shall be deemed compliance with any applicable requirements as of the date of permit issuance, provided that either the applicable requirements are included and specifically identified in this permit or the permit contains an explicit determination or concise summary of a determination that other specifically identified requirements are not applicable. The Indiana statutes from IC 13 and rules from 326 IAC, referenced 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 Part 70 permit under 326 IAC 2-7 or for applicable requirements for which a permit shield has been granted.

This permit shield does not extend to applicable requirements which are promulgated after the date of issuance of this permit unless this permit has been modified to reflect such new requirements.

(b) If, after issuance of this permit, it is determined that the permit is in nonconformance with an applicable requirement that applied to the source on the date of permit issuance, IDEM, OAQ shall immediately take steps to reopen and revise this permit and issue a compliance order to the Permittee to ensure expeditious compliance with the applicable requirement until the permit is reissued. The permit shield shall continue in effect so long as the Permittee is in compliance with the compliance order.

(c) No permit shield shall apply to any permit term or condition that is determined after issuance of this permit to have been based on erroneous information supplied in the permit application. Erroneous information means information that the Permittee knew to be false, or in the exercise of reasonable care should have been known to be false, at the time the information was submitted.

(d) Nothing in 326 IAC 2-7-15 or in this permit shall alter or affect the following:

   (1) The provisions of Section 303 of the Clean Air Act (emergency orders), including the authority of the U.S. EPA under Section 303 of the Clean Air Act;

   (2) The liability of the Permittee for any violation of applicable requirements prior to or at the time of this permit's issuance;

   (3) The applicable requirements of the acid rain program, consistent with Section 408(a) of the Clean Air Act; and

   (4) The ability of U.S. EPA to obtain information from the Permittee under Section 114 of the Clean Air Act.

(e) This permit shield is not applicable to any change made under 326 IAC 2-7-20(b)(2) (Sections 502(b)(10) of the Clean Air Act changes) and 326 IAC 2-7-20(c)(2) (trading based on State Implementation Plan (SIP) provisions).

(f) This permit shield is not applicable to modifications eligible for group processing until after IDEM, OAQ, has issued the modifications. [326 IAC 2-7-12(c)(7)]

(g) This permit shield is not applicable to minor Part 70 permit modifications until after IDEM, OAQ, has issued the modification. [326 IAC 2-7-12(b)(8)]

B.15 Prior Permits Superseded [326 IAC 2-1.1-9.5][326 IAC 2-7-10.5]

(a) All terms and conditions of permits established prior to T141-41690-00610 and issued pursuant to permitting programs approved into the state implementation plan have been either:

   (1) incorporated as originally stated,

   (2) revised under 326 IAC 2-7-10.5, or
(3) deleted under 326 IAC 2-7-10.5.

(b) Provided that all terms and conditions are accurately reflected in this combined permit, all previous registrations and permits are superseded by this combined new source review and part 70 operating permit, except for permits issued pursuant to Title IV of the Clean Air Act and 326 IAC 21 (Acid Deposition Control)

B.16 Termination of Right to Operate [326 IAC 2-7-10][326 IAC 2-7-4(a)]

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 2-7-3 and 326 IAC 2-7-4(a).

B.17 Permit Modification, Reopening, Revocation and Reissuance, or Termination [326 IAC 2-7-5(6)(C)][326 IAC 2-7-8(a)][326 IAC 2-7-9]

(a) This permit may be modified, reopened, revoked and reissued, or terminated for cause. The filing of a request by the Permittee for a Part 70 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 2-7-5(6)(C)] The notification by the Permittee does require a certification that meets the requirements of 326 IAC 2-7-6(1) by a "responsible official" as defined by 326 IAC 2-7-1(35).

(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 2-7-9(a)(3)]

(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 2-7-9(b)]

(d) The reopening and revision of this permit, under 326 IAC 2-7-9(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 2-7-9(c)]

B.18 Permit Renewal [326 IAC 2-7-3][326 IAC 2-7-4][326 IAC 2-7-8(e)]

(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 2-7-4. 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 certification that meets the requirements of 326 IAC 2-7-6(1) by a "responsible official" as defined by 326 IAC 2-7-1(35).
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 2-7 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 2-7-4(a)(2)(D), in writing by IDEM, OAQ any additional information identified as being needed to process the application.

B.19 Permit Amendment or Modification [326 IAC 2-7-11](326 IAC 2-7-12) [40 CFR 72]

(a) Permit amendments and modifications are governed by the requirements of 326 IAC 2-7-11 or 326 IAC 2-7-12 whenever the Permittee seeks to amend or modify this permit.

(b) Pursuant to 326 IAC 2-7-11(b) and 326 IAC 2-7-12(a), administrative Part 70 operating permit amendments and permit modifications for purposes of the acid rain portion of a Part 70 permit shall be governed by regulations promulgated under Title IV of the Clean Air Act. [40 CFR 72]

(c) 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 2-7-6(1) by a “responsible official” as defined by 326 IAC 2-7-1(35).

(d) The Permittee may implement administrative amendment changes addressed in the request for an administrative amendment immediately upon submittal of the request. [326 IAC 2-7-11(c)(3)]
B.20 Permit Revision Under Economic Incentives and Other Programs
[326 IAC 2-7-5(8)][326 IAC 2-7-12(b)(2)]

(a) No Part 70 permit revision or notice shall be required under any approved economic incentives, marketable Part 70 permits, emissions trading, and other similar programs or processes for changes that are provided for in a Part 70 permit.

(b) Notwithstanding 326 IAC 2-7-12(b)(1) and 326 IAC 2-7-12(c)(1), minor Part 70 permit modification procedures may be used for Part 70 modifications involving the use of economic incentives, marketable Part 70 permits, emissions trading, and other similar approaches to the extent that such minor Part 70 permit modification procedures are explicitly provided for in the applicable State Implementation Plan (SIP) or in applicable requirements promulgated or approved by the U.S. EPA.

B.21 Operational Flexibility [326 IAC 2-7-20][326 IAC 2-7-10.5]

(a) The Permittee may make any change or changes at the source that are described in 326 IAC 2-7-20(b) or (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 preconstruction approval required by 326 IAC 2-7-10.5 has been obtained;

(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 5
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 2-7-20(b)(1) and (c)(1). 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 2-7-20(b)(1) and (c)(1).
(b) The Permittee may make Section 502(b)(10) of the Clean Air Act changes (this term is defined at 326 IAC 2-7-1(37)) without a permit revision, subject to the constraint of 326 IAC 2-7-20(a). For each such Section 502(b)(10) of the Clean Air Act change, the required written notification shall include the following:

1. A brief description of the change within the source;
2. The date on which the change will occur;
3. Any change in emissions; and
4. Any permit term or condition that is no longer applicable as a result of the change.

The notification which shall be submitted is not considered an application form, report or compliance certification. Therefore, the notification by the Permittee does not require a certification that meets the requirements of 326 IAC 2-7-6(1) by a "responsible official" as defined by 326 IAC 2-7-1(35).

(c) Emission Trades [326 IAC 2-7-20(c)]
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 2-7-20(c).

(d) Alternative Operating Scenarios [326 IAC 2-7-20(d)]
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 2-7-5(9). No prior notification of IDEM, OAQ or U.S. EPA is required.

(e) 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.

(f) This condition does not apply to emission trades of SO₂ or NOₓ under 326 IAC 21 or 326 IAC 10-4.

B.22 Source Modification Requirement [326 IAC 2-7-10.5]
A modification, construction, or reconstruction is governed by the requirements of 326 IAC 2.

B.23 Inspection and Entry [326 IAC 2-7-6][IC 13-14-2-2][IC 13-30-3-1][IC 13-17-3-2]
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:

(a) Enter upon the Permittee’s premises where a Part 70 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 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 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 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.24 Transfer of Ownership or Operational Control [326 IAC 2-7-11]

(a) The Permittee must comply with the requirements of 326 IAC 2-7-11 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 2-7-6(1) by a "responsible official" as defined by 326 IAC 2-7-1(35).

(c) The Permittee may implement administrative amendment changes addressed in the request for an administrative amendment immediately upon submittal of the request. [326 IAC 2-7-11(c)(3)]

B.25 Annual Fee Payment [326 IAC 2-7-19] [326 IAC 2-7-5(7)] [326 IAC 2-1.1-7]

(a) The Permittee shall pay annual fees to IDEM, OAQ within 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) Except as provided in 326 IAC 2-7-19(e), 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.26 Credible Evidence [326 IAC 2-7-5(3)] [326 IAC 2-7-6] [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

Emission Limitations and Standards  [326 IAC 2-7-5(1)]

C.1 Particulate Emission Limitations For Processes with Process Weight Rates Less Than One Hundred (100) Pounds per Hour [326 IAC 6-3-2]

Pursuant to 326 IAC 6-3-2(e)(2), particulate emissions from any process not exempt under 326 IAC 6-3-1(b) or (c) which has a maximum process weight rate less than 100 pounds per hour and the methods in 326 IAC 6-3-2(b) through (d) do not apply shall not exceed 0.551 pounds per hour.

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 thirty percent (30%) 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). 326 IAC 6-4-2(4) is not federally enforceable.

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 2-7-6(1) by a "responsible official" as defined by 326 IAC 2-7-1(35).

(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. The requirement to use an Indiana Licensed Asbestos inspector is not federally enforceable.
Testing Requirements [326 IAC 2-7-6(1)]

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 2-7-6(1) by a "responsible official" as defined by 326 IAC 2-7-1(35).

(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 2-7-6(1) by a "responsible official" as defined by 326 IAC 2-7-1(35).

(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 2-7-5(1)][326 IAC 2-7-6(1)]

C.9 Compliance Monitoring [326 IAC 2-7-5(3)][326 IAC 2-7-6(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 2-7-6(1) by a “responsible official” as defined by 326 IAC 2-7-1(35).

C.10 Instrument Specifications [326 IAC 2-1.1-11] [326 IAC 2-7-5(3)] [326 IAC 2-7-6(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 2-7-5][326 IAC 2-7-6]

C.11 Emergency Reduction Plans [326 IAC 1-5-2] [326 IAC 1-5-3]

Pursuant to 326 IAC 1-5-2 (Emergency Reduction Plans; Submission):

(a) The Permittee shall prepare written emergency reduction plans (ERPs) consistent with safe operating procedures.

(b) These ERPs shall be submitted for approval 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 180 days from the date on which this source commences operation.

The ERP does require a certification that meets the requirements of 326 IAC 2-7-6(1) by a “responsible official” as defined by 326 IAC 2-7-1(35).

(c) If the ERP is disapproved by IDEM, OAQ, the Permittee shall have an additional thirty (30) days to resolve the differences and submit an approvable ERP.

(d) These ERPs shall state those actions that will be taken, when each episode level is declared, to reduce or eliminate emissions of the appropriate air pollutants.

(e) Said ERPs shall also identify the sources of air pollutants, the approximate amount of reduction of the pollutants, and a brief description of the manner in which the reduction will be achieved.

(f) Upon direct notification by IDEM, OAQ that a specific air pollution episode level is in effect, the Permittee shall immediately put into effect the actions stipulated in the approved ERP for the appropriate episode level. [326 IAC 1-5-3]
C.12 Risk Management Plan [326 IAC 2-7-5(11)] [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.13 Response to Excursions or Exceedances [326 IAC 2-7-5] [326 IAC 2-7-6]
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 startup, 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.14 Actions Related to Noncompliance Demonstrated by a Stack Test [326 IAC 2-7-5][326 IAC 2-7-6]

(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 2-7-6(1) by a "responsible official" as defined by 326 IAC 2-7-1(35).

Record Keeping and Reporting Requirements [326 IAC 2-7-5(3)] [326 IAC 2-7-19]

C.15 Emission Statement [326 IAC 2-7-5(3)(C)(iii)][326 IAC 2-7-5(7)][326 IAC 2-7-19(c)][326 IAC 2-6]

Pursuant to 326 IAC 2-6-3(b)(1), starting in 2004 and every three (3) years thereafter, the Permittee shall submit by July 1 an emission statement covering the previous calendar year. The emission statement shall contain, at a minimum, the information specified in 326 IAC 2-6-4(c) and shall meet the following requirements:

(1) Indicate estimated actual emissions of all pollutants listed in 326 IAC 2-6-4(a);

(2) Indicate estimated actual emissions of regulated pollutants as defined by 326 IAC 2-7-1(33) ("Regulated pollutant, which is used only for purposes of Section 19 of this rule") from the source, for purpose of fee assessment.

The statement must be submitted to:

Indiana Department of Environmental Management
Technical Support and Modeling Section, Office of Air Quality
100 North Senate Avenue
MC 61-50 IGCN 1003
Indianapolis, Indiana 46204-2251

The emission statement does require a certification that meets the requirements of 326 IAC 2-7-6(1) by a "responsible official" as defined by 326 IAC 2-7-1(35).

C.16 General Record Keeping Requirements [326 IAC 2-7-5(3)] [326 IAC 2-7-6]

(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 Part 70 permit.

Records of required monitoring information include the following, where applicable:

(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
C.17 General Reporting Requirements [326 IAC 2-7-5(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 2-7-6(1) by a "responsible official" as defined by 326 IAC 2-7-1(35). 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.18 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:

One (1) Expandable Polystyrene (EPS) Production Line, identified as Line 1, consisting of the following:

(a) One (1) Pre-Expanding Unit, identified as PE1, approved in 2020 for construction, with a maximum throughput of 2.40 tons per hour of plastic beads, using no controls, and exhausting indoors.

(b) One (1) Pre-Puff Storage Silo System, identified as SB1, approved in 2020 for construction, with a maximum throughput of 2.40 tons per hour of plastic beads, using no controls, and exhausting indoors.

(c) One (1) Molding Press, identified as MP1, approved in 2020 for construction, with a maximum throughput of 2.40 tons per hour of plastic beads, using no controls, and exhausting indoors.

(1) One (1) Natural Gas-fired Boiler used to heat the Molding Press, identified as B1, approved in 2020 for construction, with a maximum heat input capacity of 12.60 MMBtu per hour, using no controls, and exhausting to stack B1S.

[Under 40 CFR 60, Subpart Dc, this unit is considered an affected source.]

(d) One (1) Final Storage and Aging Area, identified as FSA1, approved in 2020 for construction, with a maximum throughput of 2.40 tons per hour of plastic, using no controls, and exhausting indoors.

(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 2-7-5(1)]

D.1.1 PSD Minor Limits [326 IAC 2-2]

In order to render the requirements of 326 IAC 2-2 (Prevention of Significant Deterioration (PSD)) not applicable, the Permittee shall comply with the following:

(a) Total VOC emissions from Line 1 shall not exceed one hundred and ninety one and one quarter (191.25) tons per twelve (12) consecutive month period, with compliance determined at the end of each month.

(b) The average VOC content of EPS Beads used in Line 1 Shall not exceed 4.50%.

(c) The maximum VOC loss from Line 1 shall not exceed 85%.

Compliance with these limits, combined with the potential to emit VOC from all other emission units at this source, shall limit the source-wide total potential to emit of VOC to less than two-hundred fifty (250) tons per twelve (12) consecutive month period, and shall render the requirements of 326 IAC 2-2 (Prevention of Significant Deterioration (PSD)) not applicable.

D.1.2 Volatile Organic Compounds (VOC) BACT Limits [326 IAC 8-1-6]

Pursuant to 326 IAC 8-1-6, the Permittee shall comply with the following Best Available Control Technology (BACT) requirements:

(a) Total VOC emissions from the following shall not exceed one hundred and ninety one and one quarter (191.25) tons per twelve (12) consecutive month period, with compliance
determined at the end of each month:

(1) One (1) Pre-Expanding Unit, identified as PE1
(2) One (1) Pre-Puff Storage Silo System, identified as SB1,
(3) One (1) Molding Press, identified as MP1,
(4) One (1) Final Storage and Aging Area, identified as FSA1,

(b) The average VOC content of Expandable Polystyrene (EPS) Beads used in Line 1 shall not exceed 4.5%.

D.1.3 Preventive Maintenance Plan [326 IAC 2-7-5(12)] [326 IAC 1-6-3]
A Preventive Maintenance Plan is required for the emission units listed above. 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 2-7-5(1)]

D.1.4 Volatile Organic Compounds (VOCs)
(a) In order to comply with Conditions D.1.1(a) and D.1.2(a), the Permittee shall determine VOC emissions from the Pre-Puff Storage Silo System SB1, Molding Press MP1, and Final Storage and Aging Area FSA1 according to the following formula:

\[ \text{VOC} = \frac{\sum (E \times C \times L) + (P \times C \times L) + (M \times C \times L) + (FSA \times C \times L)}{2,000 \text{ lbs/ton}} \]

where:

- \( \text{VOC} \) = tons of Line 1 VOC emissions per 12-month consecutive period.
- \( E \) = tons of EPS Beads processed in Pre-Expanding Machine per 12-month consecutive period.
- \( P \) = tons of EPS Beads processed in Pre-Puff Storage Silo System per 12-month consecutive period.
- \( M \) = tons of EPS Beads processed in Molding Machine per 12-month consecutive period.
- \( FSA \) = tons of EPS Beads processed in Final Storage and Aging Area per 12-month consecutive period.
- \( C \) = Average VOC content of EPS Beads (4.5%).
- \( L \) = Average VOC Loss during specific process.

D.1.5 Volatile Organic Compounds (VOC) [326 IAC 8-1-2] [326 IAC 8-1-4]
Compliance with the VOC content and usage limitations contained in Conditions D.1.1 and D.1.2 shall be determined pursuant to 326 IAC 8-1-4(a)(3) and 326 IAC 8-1-2(a) by preparing or obtaining from the manufacturer the copies of the "as supplied" and "as applied" VOC data sheets. IDEM, OAQ, reserves the authority to determine compliance using Method 24 in conjunction with the analytical procedures specified in 326 IAC 8-1-4.
Record Keeping and Reporting Requirements [326 IAC 2-7-5(3)] [326 IAC 2-7-19]

D.1.6 Record Keeping Requirements [326 IAC 2-7-5(3)] [326 IAC 2-7-6]

(a) To document the compliance status with Conditions D.1.1 and D.1.2, the Permittee shall maintain records of:

(1) The VOC emissions calculated using the equation in Condition D.1.4(a) each month and each compliance period;

(2) The average monthly VOC content of the EPS Beads used in Line 1

(b) Section C - General Record Keeping Requirements contains the Permittee’s obligations with regard to the records required by this condition.

D.1.7 Reporting Requirements [326 IAC 2-7-5(3)(C)] [326 IAC 2-1.1-11]

A quarterly summary of the information to document the compliance status with Conditions D.1.1(a) and D.1.2(a) shall be submitted using the reporting form located at the end of this permit, or its equivalent, no 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 submitted by the Permittee does require a certification that meets the requirements of 326 IAC 2-7-6(1) by a “responsible official,” as defined by 326 IAC 2-7-1(35).
SECTION D.2 EMISSIONS UNIT OPERATION CONDITIONS

Emissions Unit Description:

One (1) Expandable Polystyrene (EPS) Production Line, identified as Line 1, consisting of the following:

1. One (1) Natural Gas-fired Boiler used to heat the Molding Press, identified as B1, approved in 2020 for construction, with a maximum heat input capacity of 12.60 MMBtu per hour, using no controls, and exhausting to stack B1S.

[Under 40 CFR 60, Subpart Dc, this unit is considered an affected source.]

Insignificant Activities

(a) Ten (10) Natural Gas-fired Radiant Tube Heaters, identified as TH1 through TH10, approved in 2020 for construction with a combined maximum heat input capacity of 1.50 MMBtu per hour, using no controls, and exhausting to stacks TH1S through TH10S.

(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 2-7-5(1)]

D.2.1 Particulate Matter [326 IAC 6-2-4]

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

<table>
<thead>
<tr>
<th>Emission Unit</th>
<th>Unit ID</th>
<th>Pt (lb/MMBtu)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Boiler</td>
<td>B1</td>
<td>0.55</td>
</tr>
<tr>
<td>Radiant Tube Heaters</td>
<td>TH1 through TH10</td>
<td>0.55</td>
</tr>
</tbody>
</table>

D.2.2 Preventive Maintenance Plan [326 IAC 2-7-5(12)][326 IAC 1-6-3]

A Preventive Maintenance Plan is required for this facility and its control device. 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:

(1) One (1) Natural Gas-fired Boiler used to heat the Molding Press, identified as B1, approved in 2020 for construction, with a maximum heat input capacity of 12.60 MMBtu per hour, using no controls, and exhausting to stack B1S.

[Under 40 CFR 60, Subpart Dc, this unit is considered an affected source.]

(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 2-7-5(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 unit(s) listed above, except as otherwise specified in 40 CFR Part 60, Subpart Dc.

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

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

(1) 40 CFR 60.40c(a), (b), and (c)
(2) 40 CFR 60.41c
(3) 40 CFR 60.48c(a)(1), (a)(2), (g), (i), and (j)
INFORMATION OF ENVIRONMENTAL MANAGEMENT
OFFICE OF AIR QUALITY
COMPLIANCE AND ENFORCEMENT BRANCH
PART 70 OPERATING PERMIT
CERTIFICATION

Source Name: Forefront Foam, LLC.
Source Address: 1015 Saint Jerome Street, Mishawaka, Indiana 46544
Part 70 Permit No.: T141-41690-00610

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: _________________________
Phone: ______________________________
Date: ________________________________
INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT  
OFFICE OF AIR QUALITY  
COMPLIANCE AND ENFORCEMENT BRANCH  
100 North Senate Avenue  
MC 61-53 IGCN 1003  
Indianapolis, Indiana 46204-2251  
Phone: (317) 233-0178  
Fax: (317) 233-6865

PART 70 OPERATING PERMIT  
EMERGENCY OCCURRENCE REPORT

Source Name: Forefront Foam, LLC.  
Source Address: 1015 Saint Jerome Street, Mishawaka, Indiana 46544  
Part 70 Permit No.: T141-41690-00610

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 2-7-16.</td>
</tr>
</tbody>
</table>

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

<table>
<thead>
<tr>
<th>Facility/Equipment/Operation:</th>
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<th>Control Equipment:</th>
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<tr>
<th>Permit Condition or Operation Limitation in Permit:</th>
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<th>Description of the Emergency:</th>
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<tr>
<th>Describe the cause of the Emergency:</th>
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</table>

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

| Date/Time Emergency started: |
| Date/Time Emergency was corrected: |
| Was the facility being properly operated at the time of the emergency? | Y | N |
| Type of Pollutants Emitted: TSP, PM-10, SO₂, VOC, NOₓ, CO, Pb, other: |
| Estimated amount of pollutant(s) emitted during emergency: |
| Describe the steps taken to mitigate the problem: |
| Describe the corrective actions/response steps taken: |
| Describe the measures taken to minimize emissions: |
| 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: |

Form Completed by: ________________________________________________
Title / Position: ____________________________________________________
Date: ____________________________________________________________
Phone: ___________________________________________________________
INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT  
OFFICE OF AIR QUALITY  
COMPLIANCE AND ENFORCEMENT BRANCH  

Part 70 Quarterly Report  

Source Name: Forefront Foam, LLC.  
Source Address: 1015 Saint Jerome Street, Mishawaka, Indiana 46544  
Part 70 Permit No.: T141-41690-00610  
Facility:  
(1) Pre-Expanding PE1,  
(2) Pre-Puff Storage Silo System SB1,  
(3) Molding Press MP1, and  
(4) Final Staging and Aging Area FSA1  
Parameter: VOC  
Limit: Shall not exceed 191.25 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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<table>
<thead>
<tr>
<th>Month</th>
<th>Column 1</th>
<th>Column 2</th>
<th>Column 1 + Column 2</th>
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<tbody>
<tr>
<td></td>
<td>VOC (tons)</td>
<td>VOC (tons)</td>
<td>VOC (tons)</td>
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<tr>
<td>This Month</td>
<td>Previous 11 Months</td>
<td>12 Month Total</td>
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</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
PART 70 OPERATING PERMIT
QUARTERLY DEVIATION AND COMPLIANCE MONITORING REPORT

<table>
<thead>
<tr>
<th>Source Name:</th>
<th>Forefront Foam, LLC.</th>
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</thead>
<tbody>
<tr>
<td>Source Address:</td>
<td>1015 Saint Jerome Street, Mishawaka, Indiana 46544</td>
</tr>
<tr>
<td>Part 70 Permit No.:</td>
<td>T141-41690-00610</td>
</tr>
</tbody>
</table>

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<th>Months:</th>
<th>Year:</th>
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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>
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<tr>
<td>Date of Deviation:</td>
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<td>Number of Deviations:</td>
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<tr>
<td>Probable Cause of Deviation:</td>
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<td>Probable Cause of Deviation:</td>
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</table>

Response Steps Taken:

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<th>Permit Requirement (specify permit condition #)</th>
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<td>Duration of Deviation:</td>
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</table>

Form Completed by: _______________________________________________________
Title / Position: ___________________________________________________________
Date: ___________________________________________________________________
Phone: _________________________________________________________________
Forefront Foam, LLC.  
1015 Saint Jerome Street  
Mishawaka, Indiana 46544

Affidavit of Construction

I, ____________________________________________________________, being duly sworn upon my oath, depose and say:

(Name of the Authorized Representative)

1. I live in _____________________________ County, Indiana and being of sound mind and over twenty-one (21) years of age, I am competent to give this affidavit.

2. I hold the position of ______________________________ for ______________________________________.

   (Title)  (Company Name)

3. By virtue of my position with ___________________________________________________, I have personal

knowledge of the representations contained in this affidavit and am authorized to make these representations

on behalf of ________________________________________________________________.

   (Company Name)

4. I hereby certify that Forefront Foam, LLC., 1015 Saint Jerome Street, Mishawaka, Indiana 46544, completed

construction of the expandable polystyrene manufacturing on ______________________ in conformity with

the requirements and intent of the construction permit application received by the Office of Air Quality on July

18, 2019 and as permitted pursuant to New Source Construction Permit and Part 70 Operating Permit No.

T141-41690-00610, Plant ID No. 141-00610 issued on ______________________.

5. Permittee, please cross out the following statement if it does not apply: Additional (operations/facilities)

were constructed/substituted as described in the attachment to this document and were not made in

accordance with the construction permit.

Further Affiant said not.

I affirm under penalties of perjury that the representations contained in this affidavit are true, to the best of my information

and belief.

Signature____________________________________________________________

Date ____________________________________________________________________________

STATE OF INDIANA)

)SS

COUNTY OF __________________________ )

Subscribed and sworn to me, a notary public in and for __________________________ County and State of Indiana

on this __________________ day of __________________, 20____. My Commission expires: ______________________.

Signature____________________________________________________ (typed or printed)

Name________________________________________
§ 60.40c Applicability and delegation of authority.

(a) Except as provided in paragraphs (d), (e), (f), and (g) of this section, the affected facility to which this subpart applies is each steam generating unit for which construction, modification, or reconstruction is commenced after June 9, 1989 and that has a maximum design heat input capacity of 29 megawatts (MW) (100 million British thermal units per hour (MMBtu/h)) or less, but greater than or equal to 2.9 MW (10 MMBtu/h).

(b) In delegating implementation and enforcement authority to a State under section 111(c) of the Clean Air Act, § 60.48c(a)(4) shall be retained by the Administrator and not transferred to a State.

(c) Steam generating units that meet the applicability requirements in paragraph (a) of this section are not subject to the sulfur dioxide (SO₂) or particulate matter (PM) emission limits, performance testing requirements, or monitoring requirements under this subpart (§§ 60.42c, 60.43c, 60.44c, 60.45c, 60.46c, or 60.47c) during periods of combustion research, as defined in § 60.41c.

(d) Any temporary change to an existing steam generating unit for the purpose of conducting combustion research is not considered a modification under § 60.14.

(e) Affected facilities (i.e. heat recovery steam generators and fuel heaters) that are associated with stationary combustion turbines and meet the applicability requirements of subpart KKKK of this part are not subject to this subpart. This subpart will continue to apply to all other heat recovery steam generators, fuel heaters, and other affected facilities that are capable of combusting more than or equal to 2.9 MW (10 MMBtu/h) heat input of fossil fuel but less than or equal to 29 MW (100 MMBtu/h) heat input of fossil fuel. If the heat recovery steam generator, fuel heater, or other affected facility is subject to this subpart, only emissions resulting from combustion of fuels in the steam generating unit are subject to this subpart. (The stationary combustion turbine emissions are subject to subpart GG or KKKK, as applicable, of this part.)

(f) Any affected facility that meets the applicability requirements of and is subject to subpart AAAA or subpart CCCC of this part is not subject to this subpart.

(g) Any facility that meets the applicability requirements and is subject to an EPA approved State or Federal section 111(d)/129 plan implementing subpart BBBB of this part is not subject to this subpart.

(h) Affected facilities that also meet the applicability requirements under subpart J or subpart Ja of this part are subject to the PM and NOₓ standards under this subpart and the SO₂ standards under subpart J or subpart Ja of this part, as applicable.

(i) Temporary boilers are not subject to this subpart.

§ 60.41c Definitions.

As used in this subpart, all terms not defined herein shall have the meaning given them in the Clean Air Act and in subpart A of this part.

Annual capacity factor means the ratio between the actual heat input to a steam generating unit from an individual fuel or combination of fuels during a period of 12 consecutive calendar months and the potential heat input to the steam generating unit from all fuels had the steam generating unit been operated for 8,760 hours during that 12-month period at the maximum design heat input capacity. In the case of steam generating units that are rented or leased, the actual heat input shall be determined based on the combined heat input from all operations of the affected facility during a period of 12 consecutive calendar months.

Coal means all solid fuels classified as anthracite, bituminous, subbituminous, or lignite by the American Society of Testing and Materials in ASTM D388 (incorporated by reference, see § 60.17), coal refuse, and petroleum coke. Coal-derived synthetic fuels derived from coal for the purposes of creating useful heat, including but not limited to solvent refined coal, gasified coal not meeting the definition of natural gas, coal-oil mixtures, and coal-water mixtures, are also included in this definition for the purposes of this subpart.

Coal refuse means any by-product of coal mining or coal cleaning operations with an ash content greater than 50 percent (by weight) and a heating value less than 13,900 kilojoules per kilogram (kJ/kg) (6,000 Btu per pound (Btu/lb)) on a dry basis.

Combined cycle system means a system in which a separate source (such as a stationary gas turbine, internal combustion engine, or kiln) provides exhaust gas to a steam generating unit.

Combustion research means the experimental firing of any fuel or combination of fuels in a steam generating unit for the purpose of conducting research and development of more efficient combustion or more effective prevention or control of air pollutant emissions from combustion, provided that, during these periods of research and development, the heat generated is not used for any purpose other than preheating combustion air for use by that steam generating unit (i.e., the heat generated is released to the atmosphere without being used for space heating, process heating, driving pumps, preheating combustion air for other units, generating electricity, or any other purpose).

Conventional technology means wet flue gas desulfurization technology, dry flue gas desulfurization technology, atmospheric fluidized bed combustion technology, and oil hydrodesulfurization technology.

Distillate oil means fuel oil that complies with the specifications for fuel oil numbers 1 or 2, as defined by the American Society for Testing and Materials in ASTM D396 (incorporated by reference, see § 60.17), diesel fuel oil numbers 1 or 2, as defined by the American Society for Testing and Materials in ASTM D975 (incorporated by reference, see § 60.17), kerosine, as defined by the American Society of Testing and Materials in ASTM D3699 (incorporated by reference, see § 60.17), biodiesel as defined by the American Society of Testing and Materials in ASTM D6751 (incorporated by reference, see § 60.17), or biodiesel blends as defined by the American Society of Testing and Materials in ASTM D7467 (incorporated by reference, see § 60.17).

Dry flue gas desulfurization technology means a SO2 control system that is located between the steam generating unit and the exhaust vent or stack, and that removes sulfur oxides from the combustion gases of the steam generating unit by contacting the combustion gases with an alkaline reagent and water, whether introduced separately or as a premixed slurry or solution and forming a dry powder material. This definition includes devices where the dry powder material is subsequently converted to another form. Alkaline reagents used in dry flue gas desulfurization systems include, but are not limited to, lime and sodium compounds.

Duct burner means a device that combusts fuel and that is placed in the exhaust duct from another source (such as a stationary gas turbine, internal combustion engine, kiln, etc.) to allow the firing of additional fuel to heat the exhaust gases before the exhaust gases enter a steam generating unit.

Emerging technology means any SO2 control system that is not defined as a conventional technology under this section, and for which the owner or operator of the affected facility has received approval from the Administrator to operate as an emerging technology under § 60.48c(a)(4).
**Federally enforceable** means all limitations and conditions that are enforceable by the Administrator, including the requirements of 40 CFR parts 60 and 61, requirements within any applicable State implementation plan, and any permit requirements established under 40 CFR 52.21 or under 40 CFR 51.18 and 51.24.

**Fluidized bed combustion technology** means a device wherein fuel is distributed onto a bed (or series of beds) of limestone aggregate (or other sorbent materials) for combustion; and these materials are forced upward in the device by the flow of combustion air and the gaseous products of combustion. Fluidized bed combustion technology includes, but is not limited to, bubbling bed units and circulating bed units.

**Fuel pretreatment** means a process that removes a portion of the sulfur in a fuel before combustion of the fuel in a steam generating unit.

**Heat input** means heat derived from combustion of fuel in a steam generating unit and does not include the heat derived from preheated combustion air, recirculated flue gases, or exhaust gases from other sources (such as stationary gas turbines, internal combustion engines, and kilns).

**Heat transfer medium** means any material that is used to transfer heat from one point to another point.

**Maximum design heat input capacity** means the ability of a steam generating unit to combust a stated maximum amount of fuel (or combination of fuels) on a steady state basis as determined by the physical design and characteristics of the steam generating unit.

**Natural gas** means:

1. A naturally occurring mixture of hydrocarbon and nonhydrocarbon gases found in geologic formations beneath the earth's surface, of which the principal constituent is methane; or

2. Liquefied petroleum (LP) gas, as defined by the American Society for Testing and Materials in ASTM D1835 (incorporated by reference, see § 60.17); or

3. A mixture of hydrocarbons that maintains a gaseous state at ISO conditions. Additionally, natural gas must either be composed of at least 70 percent methane by volume or have a gross calorific value between 34 and 43 megajoules (MJ) per dry standard cubic meter (910 and 1,150 Btu per dry standard cubic foot).

**Noncontinental area** means the State of Hawaii, the Virgin Islands, Guam, American Samoa, the Commonwealth of Puerto Rico, or the Northern Mariana Islands.

**Oil** means crude oil or petroleum, or a liquid fuel derived from crude oil or petroleum, including distillate oil and residual oil.

**Potential sulfur dioxide emission rate** means the theoretical SO₂ emissions (nanograms per joule (ng/J) or lb/MMBtu heat input) that would result from combusting fuel in an uncleaned state and without using emission control systems.

**Process heater** means a device that is primarily used to heat a material to initiate or promote a chemical reaction in which the material participates as a reactant or catalyst.

**Residual oil** means crude oil, fuel oil that does not comply with the specifications under the definition of distillate oil, and all fuel oil numbers 4, 5, and 6, as defined by the American Society for Testing and Materials in ASTM D396 (incorporated by reference, see § 60.17).

**Steam generating unit** means a device that combusts any fuel and produces steam or heats water or heats any heat transfer medium. This term includes any duct burner that combusts fuel and is part of a combined cycle system. This term does not include process heaters as defined in this subpart.
Steam generating unit operating day means a 24-hour period between 12:00 midnight and the following midnight during which any fuel is combusted at any time in the steam generating unit. It is not necessary for fuel to be combusted continuously for the entire 24-hour period.

Temporary boiler means a steam generating unit that combusts natural gas or distillate oil with a potential SO₂ emissions rate no greater than 26 ng/J (0.060 lb/MMBtu), and the unit is designed to, and is capable of, being carried or moved from one location to another by means of, for example, wheels, skids, carrying handles, dollies, trailers, or platforms. A steam generating unit is not a temporary boiler if any one of the following conditions exists:

1. The equipment is attached to a foundation.
2. The steam generating unit or a replacement remains at a location for more than 180 consecutive days. Any temporary boiler that replaces a temporary boiler at a location and performs the same or similar function will be included in calculating the consecutive time period.
3. The equipment is located at a seasonal facility and operates during the full annual operating period of the seasonal facility, remains at the facility for at least 2 years, and operates at that facility for at least 3 months each year.
4. The equipment is moved from one location to another in an attempt to circumvent the residence time requirements of this definition.

Wet flue gas desulfurization technology means an SO₂ control system that is located between the steam generating unit and the exhaust vent or stack, and that removes sulfur oxides from the combustion gases of the steam generating unit by contacting the combustion gases with an alkaline slurry or solution and forming a liquid material. This definition includes devices where the liquid material is subsequently converted to another form. Alkaline reagents used in wet flue gas desulfurization systems include, but are not limited to, lime, limestone, and sodium compounds.

Wet scrubber system means any emission control device that mixes an aqueous stream or slurry with the exhaust gases from a steam generating unit to control emissions of PM or SO₂.

Wood means wood, wood residue, bark, or any derivative fuel or residue thereof, in any form, including but not limited to sawdust, sander dust, wood chips, scraps, slabs, millings, shavings, and processed pellets made from wood or other forest residues.


§ 60.42c Standard for sulfur dioxide (SO₂).

(a) Except as provided in paragraphs (b), (c), and (e) of this section, on and after the date on which the performance test is completed or required to be completed under § 60.8, whichever date comes first, the owner or operator of an affected facility that combusts only coal shall neither: cause to be discharged into the atmosphere from the affected facility any gases that contain SO₂ in excess of 87 ng/J (0.20 lb/MMBtu) heat input or 10 percent (0.10) of the potential SO₂ emission rate (90 percent reduction), nor cause to be discharged into the atmosphere from the affected facility any gases that contain SO₂ in excess of 520 ng/J (1.2 lb/MMBtu) heat input. If coal is combusted with other fuels, the affected facility shall neither: cause to be discharged into the atmosphere from the affected facility any gases that contain SO₂ in excess of 87 ng/J (0.20 lb/MMBtu) heat input or 10 percent (0.10) of the potential SO₂ emission rate (90 percent reduction), nor cause to be discharged into the atmosphere from the affected facility any gases that contain SO₂ in excess of the emission limit is determined pursuant to paragraph (e)(2) of this section.

(b) Except as provided in paragraphs (c) and (e) of this section, on and after the date on which the performance test is completed or required to be completed under § 60.8, whichever date comes first, the owner or operator of an affected facility that:

1. Combusts only coal refuse alone in a fluidized bed combustion steam generating unit shall neither:
(i) Cause to be discharged into the atmosphere from that affected facility any gases that contain SO$_2$ in excess of 87 ng/J (0.20 lb/MMBtu) heat input or 20 percent (0.20) of the potential SO$_2$ emission rate (80 percent reduction); nor

(ii) Cause to be discharged into the atmosphere from that affected facility any gases that contain SO$_2$ in excess of 520 ng/J (1.2 lb/MMBtu) heat input. If coal is fired with coal refuse, the affected facility subject to paragraph (a) of this section. If oil or any other fuel (except coal) is fired with coal refuse, the affected facility is subject to the 87 ng/J (0.20 lb/MMBtu) heat input SO$_2$ emissions limit or the 90 percent SO$_2$ reduction requirement specified in paragraph (a) of this section and the emission limit is determined pursuant to paragraph (e)(2) of this section.

(2) Combusts only coal and that uses an emerging technology for the control of SO$_2$ emissions shall neither:

(i) Cause to be discharged into the atmosphere from that affected facility any gases that contain SO$_2$ in excess of 50 percent (0.50) of the potential SO$_2$ emission rate (50 percent reduction); nor

(ii) Cause to be discharged into the atmosphere from that affected facility any gases that contain SO$_2$ in excess of 260 ng/J (0.60 lb/MMBtu) heat input. If coal is combusted with other fuels, the affected facility is subject to the 50 percent SO$_2$ reduction requirement specified in this paragraph and the emission limit determined pursuant to paragraph (e)(2) of this section.

(c) On and after the date on which the initial performance test is completed or required to be completed under § 60.8, whichever date comes first, no owner or operator of an affected facility that combusts coal, alone or in combination with any other fuel, and is listed in paragraphs (c)(1), (2), (3), or (4) of this section shall cause to be discharged into the atmosphere from that affected facility any gases that contain SO$_2$ in excess of the emission limit determined pursuant to paragraph (e)(2) of this section. Percent reduction requirements are not applicable to affected facilities under paragraphs (c)(1), (2), (3), or (4).

(1) Affected facilities that have a heat input capacity of 22 MW (75 MMBtu/h) or less;

(2) Affected facilities that have an annual capacity for coal of 55 percent (0.55) or less and are subject to a federally enforceable requirement limiting operation of the affected facility to an annual capacity factor for coal of 55 percent (0.55) or less.

(3) Affected facilities located in a noncontinental area; or

(4) Affected facilities that combust coal in a duct burner as part of a combined cycle system where 30 percent (0.30) or less of the heat entering the steam generating unit is from combustion of coal in the duct burner and 70 percent (0.70) or more of the heat entering the steam generating unit is from exhaust gases entering the duct burner.

(d) On and after the date on which the initial performance test is completed or required to be completed under § 60.8, whichever date comes first, no owner or operator of an affected facility that combusts oil shall cause to be discharged into the atmosphere from that affected facility any gases that contain SO$_2$ in excess of 215 ng/J (0.50 lb/MMBtu) heat input from oil; or, as an alternative, no owner or operator of an affected facility that combusts oil shall combust oil in the affected facility that contains greater than 0.5 weight percent sulfur. The percent reduction requirements are not applicable to affected facilities under this paragraph.

(e) On and after the date on which the initial performance test is completed or required to be completed under § 60.8, whichever date comes first, no owner or operator of an affected facility that combusts coal, oil, or coal and oil with any other fuel shall cause to be discharged into the atmosphere from that affected facility any gases that contain SO$_2$ in excess of the following:

(1) The percent of potential SO$_2$ emission rate or numerical SO$_2$ emission rate required under paragraph (a) or (b)(2) of this section, as applicable, for any affected facility that

(i) Combusts coal in combination with any other fuel;

(ii) Has a heat input capacity greater than 22 MW (75 MMBtu/h); and
(iii) Has an annual capacity factor for coal greater than 55 percent (0.55); and

(2) The emission limit determined according to the following formula for any affected facility that combusts coal, oil, or coal and oil with any other fuel:

\[ E_s = \left( \frac{K_aH_a + K_bH_b + K_cH_c}{H_a + H_b + H_c} \right) \]

Where:

- \( E_s \) = SO\(_2\) emission limit, expressed in ng/J or lb/MMBtu heat input;
- \( K_a = 520 \text{ ng/J (1.2 lb/MMBtu)} \);
- \( K_b = 260 \text{ ng/J (0.60 lb/MMBtu)} \);
- \( K_c = 215 \text{ ng/J (0.50 lb/MMBtu)} \);
- \( H_a \) = Heat input from the combustion of coal, except coal combusted in an affected facility subject to paragraph (b)(2) of this section, in Joules (J) [MMBtu];
- \( H_b \) = Heat input from the combustion of coal in an affected facility subject to paragraph (b)(2) of this section, in J (MMBtu); and
- \( H_c \) = Heat input from the combustion of oil, in J (MMBtu).

(f) Reduction in the potential SO\(_2\) emission rate through fuel pretreatment is not credited toward the percent reduction requirement under paragraph (b)(2) of this section unless:

(1) Fuel pretreatment results in a 50 percent (0.50) or greater reduction in the potential SO\(_2\) emission rate; and

(2) Emissions from the pretreated fuel (without either combustion or post-combustion SO\(_2\) control) are equal to or less than the emission limits specified under paragraph (b)(2) of this section.

(g) Except as provided in paragraph (h) of this section, compliance with the percent reduction requirements, fuel oil sulfur limits, and emission limits of this section shall be determined on a 30-day rolling average basis.

(h) For affected facilities listed under paragraphs (h)(1), (2), (3), or (4) of this section, compliance with the emission limits or fuel oil sulfur limits under this section may be determined based on a certification from the fuel supplier, as described under § 60.48c(f), as applicable.

(1) Distillate oil-fired affected facilities with heat input capacities between 2.9 and 29 MW (10 and 100 MMBtu/hr).

(2) Residual oil-fired affected facilities with heat input capacities between 2.9 and 8.7 MW (10 and 30 MMBtu/hr).

(3) Coal-fired affected facilities with heat input capacities between 2.9 and 8.7 MW (10 and 30 MMBtu/h).

(4) Other fuels-fired affected facilities with heat input capacities between 2.9 and 8.7 MW (10 and 30 MMBtu/h).

(i) The SO\(_2\) emission limits, fuel oil sulfur limits, and percent reduction requirements under this section apply at all times, including periods of startup, shutdown, and malfunction.

(j) For affected facilities located in noncontinental areas and affected facilities complying with the percent reduction standard, only the heat input supplied to the affected facility from the combustion of coal and oil is counted under this
section. No credit is provided for the heat input to the affected facility from wood or other fuels or for heat derived from exhaust gases from other sources, such as stationary gas turbines, internal combustion engines, and kilns.


§ 60.43c Standard for particulate matter (PM).

(a) On and after the date on which the initial performance test is completed or required to be completed under §60.8, whichever date comes first, no owner or operator of an affected facility that commenced construction, reconstruction, or modification on or before February 28, 2005, that combusts coal or combusts mixtures of coal with other fuels and has a heat input capacity of 8.7 MW (30 MMBtu/h) or greater, shall cause to be discharged into the atmosphere from that affected facility any gases that contain PM in excess of the following emission limits:

(1) 22 ng/J (0.051 lb/MMBtu) heat input if the affected facility combusts only coal, or combusts coal with other fuels and has an annual capacity factor for the other fuels of 10 percent (0.10) or less.

(2) 43 ng/J (0.10 lb/MMBtu) heat input if the affected facility combusts coal with other fuels, has an annual capacity factor for the other fuels greater than 10 percent (0.10), and is subject to a federally enforceable requirement limiting operation of the affected facility to an annual capacity factor greater than 10 percent (0.10) for fuels other than coal.

(b) On and after the date on which the initial performance test is completed or required to be completed under §60.8, whichever date comes first, no owner or operator of an affected facility that commenced construction, reconstruction, or modification on or before February 28, 2005, that combusts wood or combusts mixtures of wood with other fuels (except coal) and has a heat input capacity of 8.7 MW (30 MMBtu/h) or greater, shall cause to be discharged into the atmosphere from that affected facility any gases that contain PM in excess of the following emissions limits:

(1) 43 ng/J (0.10 lb/MMBtu) heat input if the affected facility has an annual capacity factor for wood greater than 30 percent (0.30); or

(2) 130 ng/J (0.30 lb/MMBtu) heat input if the affected facility has an annual capacity factor for wood of 30 percent (0.30) or less and is subject to a federally enforceable requirement limiting operation of the affected facility to an annual capacity factor for wood of 30 percent (0.30) or less.

(c) On and after the date on which the initial performance test is completed or required to be completed under §60.8, whichever date comes first, no owner or operator of an affected facility that combusts coal, wood, or oil and has a heat input capacity of 8.7 MW (30 MMBtu/h) or greater shall cause to be discharged into the atmosphere from that affected facility any gases that exhibit greater than 20 percent opacity (6-minute average), except for one 6-minute period per hour of not more than 27 percent opacity. Owners and operators of an affected facility that elect to install, calibrate, maintain, and operate a continuous emissions monitoring system (CEMS) for measuring PM emissions according to the requirements of this subpart and are subject to a federally enforceable PM limit of 0.030 lb/MMBtu or less are exempt from the opacity standard specified in this paragraph (c).

(d) The PM and opacity standards under this section apply at all times, except during periods of startup, shutdown, or malfunction.

(e)(1) On and after the date on which the initial performance test is completed or is required to be completed under §60.8, whichever date comes first, no owner or operator of an affected facility that commences construction, reconstruction, or modification after February 28, 2005, and that combusts coal, oil, wood, a mixture of these fuels, or a mixture of these fuels with any other fuels and has a heat input capacity of 8.7 MW (30 MMBtu/h) or greater shall cause to be discharged into the atmosphere from that affected facility any gases that contain PM in excess of 13 ng/J (0.030 lb/MMBtu) heat input, except as provided in paragraphs (e)(2), (e)(3), and (e)(4) of this section.

(2) As an alternative to meeting the requirements of paragraph (e)(1) of this section, the owner or operator of an affected facility for which modification commenced after February 28, 2005, may elect to meet the requirements of this paragraph. On and after the date on which the initial performance test is completed or required to be completed under §60.8, whichever date comes first, no owner or operator of an affected facility that commences modification after February 28, 2005 shall cause to be discharged into the atmosphere from that affected facility any gases that contain PM in excess of both:
(i) 22 ng/J (0.051 lb/MMBtu) heat input derived from the combustion of coal, oil, wood, a mixture of these fuels, or a mixture of these fuels with any other fuels; and

(ii) 0.2 percent of the combustion concentration (99.8 percent reduction) when combusting coal, oil, wood, a mixture of these fuels, or a mixture of these fuels with any other fuels.

(3) On and after the date on which the initial performance test is completed or is required to be completed under § 60.8, whichever date comes first, no owner or operator of an affected facility that commences modification after February 28, 2005, and that combusts over 30 percent wood (by heat input) on an annual basis and has a heat input capacity of 8.7 MW (30 MMBtu/h) or greater shall cause to be discharged into the atmosphere from that affected facility any gases that contain PM in excess of 43 ng/J (0.10 lb/MMBtu) heat input.

(4) An owner or operator of an affected facility that commences construction, reconstruction, or modification after February 28, 2005, and that combusts only oil that contains no more than 0.50 weight percent sulfur or a mixture of 0.50 weight percent sulfur oil with other fuels not subject to a PM standard under § 60.43c and not using a post-combustion technology (except a wet scrubber) to reduce PM or SO2 emissions is not subject to the PM limit in this section.

§ 60.44c Compliance and performance test methods and procedures for sulfur dioxide.

(a) Except as provided in paragraphs (g) and (h) of this section and § 60.8(b), performance tests required under § 60.8 shall be conducted following the procedures specified in paragraphs (b), (c), (d), (e), and (f) of this section, as applicable. Section 60.8(f) does not apply to this section. The 30-day notice required in § 60.8(d) applies only to the initial performance test unless otherwise specified by the Administrator.

(b) The initial performance test required under § 60.8 shall be conducted over 30 consecutive operating days of the steam generating unit. Compliance with the percent reduction requirements and SO2 emission limits under § 60.42c shall be determined using a 30-day average. The first operating day included in the initial performance test shall be scheduled within 30 days after achieving the maximum production rate at which the affect facility will be operated, but not later than 180 days after the initial startup of the facility. The steam generating unit load during the 30-day period does not have to be the maximum design heat input capacity, but must be representative of future operating conditions.

(c) After the initial performance test required under paragraph (b) of this section and § 60.8, compliance with the percent reduction requirements and SO2 emission limits under § 60.42c is based on the average percent reduction and the average SO2 emission rates for 30 consecutive steam generating unit operating days. A separate performance test is completed at the end of each steam generating unit operating day, and a new 30-day average percent reduction and SO2 emission rate are calculated to show compliance with the standard.

(d) If only coal, only oil, or a mixture of coal and oil is combusted in an affected facility, the procedures in Method 19 of appendix A of this part are used to determine the hourly SO2 emission rate (Eho ) and the 30-day average SO2 emission rate (Eao ). The hourly averages used to compute the 30-day averages are obtained from the CEMS. Method 19 of appendix A of this part shall be used to calculate Eao when using daily fuel sampling or Method 6B of appendix A of this part.

(e) If coal, oil, or coal and oil are combusted with other fuels:

(1) An adjusted Eho (Eho o) is used in Equation 19-19 of Method 19 of appendix A of this part to compute the adjusted Eao (Eao o). The Eho o is computed using the following formula:

\[
E_{ho}^{o} = \frac{E_{ho} - E_{w}(1-X_{1})}{X_{1}}
\]

Where:
E_{ho} = \text{Hourly SO}_2\text{ emission rate, ng/J (lb/MMBtu);} \\
E_{ho} = \text{Adjusted } E_{ho}, \text{ ng/J (lb/MMBtu);} \\
E_{w} = \text{SO}_2\text{ concentration in fuels other than coal and oil combusted in the affected facility, as determined by fuel sampling and analysis procedures in Method 9 of appendix A of this part, ng/J (lb/MMBtu). The value } E_{w} \text{ for each fuel lot is used for each hourly average during the time that the lot is being combusted. The owner or operator does not have to measure } E_{w} \text{ if the owner or operator elects to assume } E_{w} = 0.

X_k = \text{Fraction of the total heat input from fuel combustion derived from coal and oil, as determined by applicable procedures in Method 19 of appendix A of this part.}

(2) The owner or operator of an affected facility that qualifies under the provisions of § 60.42c(c) or (d) (where percent reduction is not required) does not have to measure the parameters } E_{w} \text{ or } X_k \text{ if the owner or operator of the affected facility elects to measure emission rates of the coal or oil using the fuel sampling and analysis procedures under Method 19 of appendix A of this part.}

(f) Affected facilities subject to the percent reduction requirements under § 60.42c(a) or (b) shall determine compliance with the SO2 emission limits under § 60.42c pursuant to paragraphs (d) or (e) of this section, and shall determine compliance with the percent reduction requirements using the following procedures:

(1) If only coal is combusted, the percent of potential SO2 emission rate is computed using the following formula:

\[
\%P_s = 100 \left( 1 - \frac{\%R_g}{100} \right) \left( 1 - \frac{\%R_f}{100} \right)
\]

Where:

\%P_s = \text{Potential SO}_2\text{ emission rate, in percent;}

\%R_g = \text{SO}_2\text{ removal efficiency of the control device as determined by Method 19 of appendix A of this part, in percent;}

and

\%R_f = \text{SO}_2\text{ removal efficiency of fuel pretreatment as determined by Method 19 of appendix A of this part, in percent.}

(2) If coal, oil, or coal and oil are combusted with other fuels, the same procedures required in paragraph (f)(1) of this section are used, except as provided for in the following:

(i) To compute the } \%P_s, \text{ an adjusted } \%R_g (\%R_g o) \text{ is computed from } E_{ao} \text{ from paragraph (e)(1) of this section and an adjusted average SO}_2\text{ inlet rate (E_{ai} o) using the following formula:

\[
\%R_g o = 100 \left( 1 - \frac{E_{ao}}{E_{ai} o} \right)
\]

Where:

\%R_g o = \text{Adjusted } \%R_g, \text{ in percent;}

E_{ao} o = \text{Adjusted } E_{ao}, \text{ ng/J (lb/MMBtu);} \text{ and}

E_{ai} o = \text{Adjusted average SO}_2\text{ inlet rate, ng/J (lb/MMBtu).}
(ii) To compute \( E_{\text{hi o}} \), an adjusted hourly SO\(_2\) inlet rate (\( E_{\text{hi}} \)) is used. The \( E_{\text{hi o}} \) is computed using the following formula:

\[
E_{\text{hi o}} = \frac{E_{\text{hi}} - E_w (1 - X_k)}{X_k}
\]

Where:

\( E_{\text{hi o}} \) = Adjusted \( E_{\text{hi}} \), ng/J (lb/MMBtu);

\( E_{\text{hi}} \) = Hourly SO\(_2\) inlet rate, ng/J (lb/MMBtu);

\( E_w \) = SO\(_2\) concentration in fuels other than coal and oil combusted in the affected facility, as determined by fuel sampling and analysis procedures in Method 19 of appendix A of this part, ng/J (lb/MMBtu). The value \( E_w \) for each fuel lot is used for each hourly average during the time that the lot is being combusted. The owner or operator does not have to measure \( E_w \) if the owner or operator elects to assume \( E_w = 0 \); and

\( X_k \) = Fraction of the total heat input from fuel combustion derived from coal and oil, as determined by applicable procedures in Method 19 of appendix A of this part.

(g) For oil-fired affected facilities where the owner or operator seeks to demonstrate compliance with the fuel oil sulfur limits under § 60.42c based on shipment fuel sampling, the initial performance test shall consist of sampling and analyzing the oil in the initial tank of oil to be fired in the steam generating unit to demonstrate that the oil contains 0.5 weight percent sulfur or less. Thereafter, the owner or operator of the affected facility shall sample the oil in the fuel tank after each new shipment of oil is received, as described under § 60.46c(d)(2).

(h) For affected facilities subject to § 60.42c(h)(1), (2), or (3) where the owner or operator seeks to demonstrate compliance with the SO\(_2\) standards based on fuel supplier certification, the performance test shall consist of the certification from the fuel supplier, as described in § 60.48c(f), as applicable.

(i) The owner or operator of an affected facility seeking to demonstrate compliance with the SO\(_2\) standards under § 60.42c(c)(2) shall demonstrate the maximum design heat input capacity of the steam generating unit by operating the steam generating unit at this capacity for 24 hours. This demonstration shall be made during the initial performance test, and a subsequent demonstration may be requested at any other time. If the demonstrated 24-hour average firing rate for the affected facility is less than the maximum design heat input capacity stated by the manufacturer of the affected facility, the demonstrated 24-hour average firing rate shall be used to determine the annual capacity factor for the affected facility; otherwise, the maximum design heat input capacity provided by the manufacturer shall be used.

(j) The owner or operator of an affected facility shall use all valid SO\(_2\) emissions data in calculating \( %P_s \) and \( E_{\text{so o}} \) under paragraphs (d), (e), or (f) of this section, as applicable, whether or not the minimum emissions data requirements under § 60.46c(f) are achieved. All valid emissions data, including valid data collected during periods of startup, shutdown, and malfunction, shall be used in calculating \( %P_s \) or \( E_{\text{so o}} \) pursuant to paragraphs (d), (e), or (f) of this section, as applicable.

[72 FR 32759, June 13, 2007, as amended at 74 FR 5091, Jan. 28, 2009]

§ 60.45c  Compliance and performance test methods and procedures for particulate matter.

(a) The owner or operator of an affected facility subject to the PM and/or opacity standards under § 60.43c shall conduct an initial performance test as required under § 60.8, and shall conduct subsequent performance tests as requested by the Administrator, to determine compliance with the standards using the following procedures and reference methods, except as specified in paragraph (c) of this section.

(1) Method 1 of appendix A of this part shall be used to select the sampling site and the number of traverse sampling points.
(2) Method 3A or 3B of appendix A-2 of this part shall be used for gas analysis when applying Method 5 or 5B of appendix A-3 of this part or 17 of appendix A-6 of this part.

(3) Method 5, 5B, or 17 of appendix A of this part shall be used to measure the concentration of PM as follows:

(i) Method 5 of appendix A of this part may be used only at affected facilities without wet scrubber systems.

(ii) Method 17 of appendix A of this part may be used at affected facilities with or without wet scrubber systems provided the stack gas temperature does not exceed a temperature of 160 °C (320 °F). The procedures of Sections 8.1 and 11.1 of Method 5B of appendix A of this part may be used in Method 17 of appendix A of this part only if Method 17 of appendix A of this part is used in conjunction with a wet scrubber system. Method 17 of appendix A of this part shall not be used in conjunction with a wet scrubber system if the effluent is saturated or laden with water droplets.

(iii) Method 5B of appendix A of this part may be used in conjunction with a wet scrubber system.

(4) The sampling time for each run shall be at least 120 minutes and the minimum sampling volume shall be 1.7 dry standard cubic meters (dscm) [60 dry standard cubic feet (dscf)] except that smaller sampling times or volumes may be approved by the Administrator when necessitated by process variables or other factors.

(5) For Method 5 or 5B of appendix A of this part, the temperature of the sample gas in the probe and filter holder shall be monitored and maintained at 160 ±14 °C (320±25 °F).

(6) For determination of PM emissions, an oxygen (O₂) or carbon dioxide (CO₂) measurement shall be obtained simultaneously with each run of Method 5, 5B, or 17 of appendix A of this part by traversing the duct at the same sampling location.

(7) For each run using Method 5, 5B, or 17 of appendix A of this part, the emission rates expressed in ng/J (lb/MMBtu) heat input shall be determined using:

(i) The O₂ or CO₂ measurements and PM measurements obtained under this section, (ii) The dry basis F factor, and

(iii) The dry basis emission rate calculation procedure contained in Method 19 of appendix A of this part.

(8) Method 9 of appendix A-4 of this part shall be used for determining the opacity of stack emissions.

(b) The owner or operator of an affected facility seeking to demonstrate compliance with the PM standards under § 60.43c(b)(2) shall demonstrate the maximum design heat input capacity of the steam generating unit by operating the steam generating unit at this capacity for 24 hours. This demonstration shall be made during the initial performance test, and a subsequent demonstration may be requested at any other time. If the demonstrated 24-hour average firing rate for the affected facility is less than the maximum design heat input capacity stated by the manufacturer of the affected facility, the demonstrated 24-hour average firing rate shall be used to determine the annual capacity factor for the affected facility; otherwise, the maximum design heat input capacity provided by the manufacturer shall be used.

(c) In place of PM testing with Method 5 or 5B of appendix A-3 of this part or Method 17 of appendix A-6 of this part, an owner or operator may elect to install, calibrate, maintain, and operate a CEMS for monitoring PM emissions discharged to the atmosphere and record the output of the system. The owner or operator of an affected facility who elects to continuously monitor PM emissions instead of conducting performance testing using Method 5 or 5B of appendix A-3 of this part or Method 17 of appendix A-6 of this part shall install, calibrate, maintain, and operate a CEMS and shall comply with the requirements specified in paragraphs (c)(1) through (c)(14) of this section.

(1) Notify the Administrator 1 month before starting use of the system.

(2) Notify the Administrator 1 month before stopping use of the system.
(3) The monitor shall be installed, evaluated, and operated in accordance with § 60.13 of subpart A of this part.

(4) The initial performance evaluation shall be completed no later than 180 days after the date of initial startup of the affected facility, as specified under § 60.8 of subpart A of this part or within 180 days of notification to the Administrator of use of CEMS if the owner or operator was previously determining compliance by Method 5, 5B, or 17 of appendix A of this part performance tests, whichever is later.

(5) The owner or operator of an affected facility shall conduct an initial performance test for PM emissions as required under § 60.8 of subpart A of this part. Compliance with the PM emission limit shall be determined by using the CEMS specified in paragraph (d) of this section to measure PM and calculating a 24-hour block arithmetic average emission concentration using EPA Reference Method 19 of appendix A of this part, section 4.1.

(6) Compliance with the PM emission limit shall be determined based on the 24-hour daily (block) average of the hourly arithmetic average emission concentrations using CEMS outlet data.

(7) At a minimum, valid CEMS hourly averages shall be obtained as specified in paragraph (c)(7)(i) of this section for 75 percent of the total operating hours per 30-day rolling average.

(i) At least two data points per hour shall be used to calculate each 1-hour arithmetic average.

(ii) [Reserved]

(8) The 1-hour arithmetic averages required under paragraph (c)(7) of this section shall be expressed in ng/J or lb/MMBtu heat input and shall be used to calculate the boiler operating day daily arithmetic average emission concentrations. The 1-hour arithmetic averages shall be calculated using the data points required under § 60.13(e)(2) of subpart A of this part.

(9) All valid CEMS data shall be used in calculating average emission concentrations even if the minimum CEMS data requirements of paragraph (c)(7) of this section are not met.

(10) The CEMS shall be operated according to Performance Specification 11 in appendix B of this part.

(11) During the correlation testing runs of the CEMS required by Performance Specification 11 in appendix B of this part, PM and O₂ (or CO₂ ) data shall be collected concurrently (or within a 30- to 60-minute period) by both the continuous emission monitors and performance tests conducted using the following test methods.

(i) For PM, Method 5 or 5B of appendix A-3 of this part or Method 17 of appendix A-6 of this part shall be used; and

(ii) For O₂ (or CO₂ ), Method 3A or 3B of appendix A-2 of this part, as applicable shall be used.

(12) Quarterly accuracy determinations and daily calibration drift tests shall be performed in accordance with procedure 2 in appendix F of this part. Relative Response Audit's must be performed annually and Response Correlation Audits must be performed every 3 years.

(13) When PM emissions data are not obtained because of CEMS breakdowns, repairs, calibration checks, and zero and span adjustments, emissions data shall be obtained by using other monitoring systems as approved by the Administrator or EPA Reference Method 19 of appendix A of this part to provide, as necessary, valid emissions data for a minimum of 75 percent of total operating hours on a 30-day rolling average.

(14) As of January 1, 2012, and within 90 days after the date of completing each performance test, as defined in § 60.8, conducted to demonstrate compliance with this subpart, you must submit relative accuracy test audit (i.e., reference method) data and performance test (i.e., compliance test) data, except opacity data, electronically to EPA's Central Data Exchange (CDX) by using the Electronic Reporting Tool (ERT) (see http://www.epa.gov/ttn/chief/ert/ert_tool.html/) or other compatible electronic spreadsheet. Only data collected using test methods compatible with ERT are subject to this requirement to be submitted electronically into EPA's WebFIRE database.
(d) The owner or operator of an affected facility seeking to demonstrate compliance under § 60.43c(e)(4) shall follow the applicable procedures under § 60.48c(f). For residual oil-fired affected facilities, fuel supplier certifications are only allowed for facilities with heat input capacities between 2.9 and 8.7 MW (10 to 30 MMBtu/h).


§ 60.46c Emission monitoring for sulfur dioxide.

(a) Except as provided in paragraphs (d) and (e) of this section, the owner or operator of an affected facility subject to the SO₂ emission limits under § 60.42c shall install, calibrate, maintain, and operate a CEMS for measuring SO₂ concentrations and either O₂ or CO₂ concentrations at the outlet of the SO₂ control device (or the outlet of the steam generating unit if no SO₂ control device is used), and shall record the output of the system. The owner or operator of an affected facility subject to the percent reduction requirements under § 60.42c shall measure SO₂ concentrations and either O₂ or CO₂ concentrations at both the inlet and outlet of the SO₂ control device.

(b) The 1-hour average SO₂ emission rates measured by a CEMS shall be expressed in ng/J or lb/MMBtu heat input and shall be used to calculate the average emission rates under § 60.42c. Each 1-hour average SO₂ emission rate must be based on at least 30 minutes of operation, and shall be calculated using the data points required under § 60.13(h)(2). Hourly SO₂ emission rates are not calculated if the affected facility is operated less than 30 minutes in a 1-hour period and are not counted toward determination of a steam generating unit operating day.

(c) The procedures under § 60.13 shall be followed for installation, evaluation, and operation of the CEMS.

(1) All CEMS shall be operated in accordance with the applicable procedures under Performance Specifications 1, 2, and 3 of appendix B of this part.

(2) Quarterly accuracy determinations and daily calibration drift tests shall be performed in accordance with Procedure 1 of appendix F of this part.

(3) For affected facilities subject to the percent reduction requirements under § 60.42c, the span value of the SO₂ CEMS at the inlet to the SO₂ control device shall be 125 percent of the maximum estimated hourly potential SO₂ emission rate of the fuel combusted, and the span value of the SO₂ CEMS at the outlet from the SO₂ control device shall be 50 percent of the maximum estimated hourly potential SO₂ emission rate of the fuel combusted.

(4) For affected facilities that are not subject to the percent reduction requirements of § 60.42c, the span value of the SO₂ CEMS at the outlet from the SO₂ control device (or outlet of the steam generating unit if no SO₂ control device is used) shall be 125 percent of the maximum estimated hourly potential SO₂ emission rate of the fuel combusted.

(d) As an alternative to operating a CEMS at the inlet to the SO₂ control device (or outlet of the steam generating unit if no SO₂ control device is used) as required under paragraph (a) of this section, an owner or operator may elect to determine the average SO₂ emission rate by sampling the fuel prior to combustion. As an alternative to operating a CEMS at the outlet from the SO₂ control device (or outlet of the steam generating unit if no SO₂ control device is used) as required under paragraph (a) of this section, an owner or operator may elect to determine the average SO₂ emission rate by using Method 6B of appendix A of this part. Fuel sampling shall be conducted pursuant to either paragraph (d)(1) or (d)(2) of this section. Method 6B of appendix A of this part shall be conducted pursuant to paragraph (d)(3) of this section.

(1) For affected facilities combusting coal or oil, coal or oil samples shall be collected daily in an as-fired condition at the inlet to the steam generating unit and analyzed for sulfur content and heat content according the Method 19 of appendix A of this part. Method 19 of appendix A of this part provides procedures for converting these measurements into the format to be used in calculating the average SO₂ input rate.

(2) As an alternative fuel sampling procedure for affected facilities combusting oil, oil samples may be collected from the fuel tank for each steam generating unit immediately after the fuel tank is filled and before any oil is combusted. The owner or operator of the affected facility shall analyze the oil sample to determine the sulfur content of the oil. If a partially empty fuel tank is refilled, a new sample and analysis of the fuel in the tank would be required upon filling. Results of the fuel analysis taken after each new shipment of oil is received shall be used as the daily value when
calculating the 30-day rolling average until the next shipment is received. If the fuel analysis shows that the sulfur content in the fuel tank is greater than 0.5 weight percent sulfur, the owner or operator shall ensure that the sulfur content of subsequent oil shipments is low enough to cause the 30-day rolling average sulfur content to be 0.5 weight percent sulfur or less.

(3) Method 6B of appendix A of this part may be used in lieu of CEMS to measure SO₂ at the inlet or outlet of the SO₂ control system. An initial stratification test is required to verify the adequacy of the Method 6B of appendix A of this part sampling location. The stratification test shall consist of three paired runs of a suitable SO₂ and CO₂ measurement train operated at the candidate location and a second similar train operated according to the procedures in §3.2 and the applicable procedures in section 7 of Performance Specification 2 of appendix B of this part. Method 6B of appendix A of this part, Method 6A of appendix A of this part, or a combination of Methods 6 and 3 of appendix A of this part or Methods 6C and 3A of appendix A of this part are suitable measurement techniques. If Method 6B of appendix A of this part is used for the second train, sampling time and timer operation may be adjusted for the stratification test as long as an adequate sample volume is collected; however, both sampling trains are to be operated similarly. For the location to be adequate for Method 6B of appendix A of this part 24-hour tests, the mean of the absolute difference between the three paired runs must be less than 10 percent (0.10).

(e) The monitoring requirements of paragraphs (a) and (d) of this section shall not apply to affected facilities subject to §60.42c(h) (1), (2), or (3) where the owner or operator of the affected facility seeks to demonstrate compliance with the SO₂ standards based on fuel supplier certification, as described under §60.48c(f), as applicable.

(f) The owner or operator of an affected facility operating a CEMS pursuant to paragraph (a) of this section, or conducting as-fired fuel sampling pursuant to paragraph (d)(1) of this section, shall obtain emission data for at least 75 percent of the operating hours in at least 22 out of 30 successive steam generating unit operating days. If this minimum data requirement is not met with a single monitoring system, the owner or operator of the affected facility shall supplement the emission data with data collected with other monitoring systems as approved by the Administrator.

§60.47c  Emission monitoring for particulate matter.

(a) Except as provided in paragraphs (c), (d), (e), and (f) of this section, the owner or operator of an affected facility combusting coal, oil, or wood that is subject to the opacity standards under §60.43c shall install, calibrate, maintain, and operate a continuous opacity monitoring system (COMS) for measuring the opacity of the emissions discharged to the atmosphere and record the output of the system. The owner or operator of an affected facility subject to an opacity standard in §60.43c(c) that is not required to use a COMS due to paragraphs (c), (d), (e), or (f) of this section that elects not to use a COMS shall conduct a performance test using Method 9 of appendix A-4 of this part and the procedures in §60.11 to demonstrate compliance with the applicable limit in §60.43c by April 29, 2011, within 45 days of stopping use of an existing COMS, or within 180 days after initial startup of the facility, whichever is later, and shall comply with either paragraphs (a)(1), (a)(2), or (a)(3) of this section. The observation period for Method 9 of appendix A-4 of this part performance tests may be reduced from 3 hours to 60 minutes if all 6-minute averages are less than 10 percent and all individual 15-second observations are less than or equal to 20 percent during the initial 60 minutes of observation.

(1) Except as provided in paragraph (a)(2) and (a)(3) of this section, the owner or operator shall conduct subsequent Method 9 of appendix A-4 of this part performance tests using the procedures in paragraph (a) of this section according to the applicable schedule in paragraphs (a)(1)(i) through (a)(1)(iv) of this section, as determined by the most recent Method 9 of appendix A-4 of this part performance test results.

(i) If no visible emissions are observed, a subsequent Method 9 of appendix A-4 of this part performance test must be completed within 12 calendar months from the date that the most recent performance test was conducted or within 45 days of the next day that fuel with an opacity standard is combusted, whichever is later;

(ii) If visible emissions are observed but the maximum 6-minute average opacity is less than or equal to 5 percent, a subsequent Method 9 of appendix A-4 of this part performance test must be completed within 6 calendar months from the date that the most recent performance test was conducted or within 45 days of the next day that fuel with an opacity standard is combusted, whichever is later;

(iii) If the maximum 6-minute average opacity is greater than 5 percent but less than or equal to 10 percent, a subsequent Method 9 of appendix A-4 of this part performance test must be completed within 3 calendar months from
the date that the most recent performance test was conducted or within 45 days of the next day that fuel with an opacity standard is combusted, whichever is later; or

(iv) If the maximum 6-minute average opacity is greater than 10 percent, a subsequent Method 9 of appendix A-4 of this part performance test must be completed within 45 calendar days from the date that the most recent performance test was conducted.

(2) If the maximum 6-minute opacity is less than 10 percent during the most recent Method 9 of appendix A-4 of this part performance test, the owner or operator may, as an alternative to performing subsequent Method 9 of appendix A-4 of this part performance tests, elect to perform subsequent monitoring using Method 22 of appendix A-7 of this part according to the procedures specified in paragraphs (a)(2)(i) and (ii) of this section.

(i) The owner or operator shall conduct 10 minute observations (during normal operation) each operating day the affected facility fires fuel for which an opacity standard is applicable using Method 22 of appendix A-7 of this part and demonstrate that the sum of the occurrences of any visible emissions is not in excess of 5 percent of the observation period (i.e., 30 seconds per 10 minute period). If the sum of the occurrence of any visible emissions is greater than 30 seconds during the initial 10 minute observation, immediately conduct a 30 minute observation. If the sum of the occurrence of visible emissions is greater than 5 percent of the observation period (i.e., 90 seconds per 30 minute period), the owner or operator shall either document and adjust the operation of the facility and demonstrate within 24 hours that the sum of the occurrence of visible emissions is equal to or less than 5 percent during a 30 minute observation (i.e., 90 seconds) or conduct a new Method 9 of appendix A-4 of this part performance test using the procedures in paragraph (a) of this section within 45 calendar days according to the requirements in § 60.45c(a)(8).

(ii) If no visible emissions are observed for 10 operating days during which an opacity standard is applicable, observations can be reduced to once every 7 operating days during which an opacity standard is applicable. If any visible emissions are observed, daily observations shall be resumed.

(3) If the maximum 6-minute opacity is less than 10 percent during the most recent Method 9 of appendix A-4 of this part performance test, the owner or operator may, as an alternative to performing subsequent Method 9 of appendix A-4 performance tests, elect to perform subsequent monitoring using a digital opacity compliance system according to a site-specific monitoring plan approved by the Administrator. The observations shall be similar, but not necessarily identical, to the requirements in paragraph (a)(2) of this section. For reference purposes in preparing the monitoring plan, see OAQPS “Determination of Visible Emission Opacity from Stationary Sources Using Computer-Based Photographic Analysis Systems.” This document is available from the U.S. Environmental Protection Agency (U.S. EPA); Office of Air Quality and Planning Standards; Sector Policies and Programs Division; Measurement Policy Group (D243-02), Research Triangle Park, NC 27711. This document is also available on the Technology Transfer Network (TTN) under Emission Measurement Center Preliminary Methods.

(b) All COMS shall be operated in accordance with the applicable procedures under Performance Specification 1 of appendix B of this part. The span value of the opacity COMS shall be between 60 and 80 percent.

(c) Owners and operators of an affected facilities that burn only distillate oil that contains no more than 0.5 weight percent sulfur and/or liquid or gaseous fuels with potential sulfur dioxide emission rates of 26 ng/J (0.060 lb/MMBtu) heat input or less and that do not use a post-combustion technology to reduce SO2 or PM emissions and that are subject to an opacity standard in § 60.43c(c) are not required to operate a COMS if they follow the applicable procedures in § 60.48c(f).

(d) Owners or operators complying with the PM emission limit by using a PM CEMS must calibrate, maintain, operate, and record the output of the system for PM emissions discharged to the atmosphere as specified in § 60.45c(c). The CEMS specified in paragraph § 60.45c(c) shall be operated and data recorded during all periods of operation of the affected facility except for CEMS breakdowns and repairs. Data is recorded during calibration checks, and zero and span adjustments.

(e) Owners and operators of an affected facility that is subject to an opacity standard in § 60.43c(c) and that does not use post-combustion technology (except a wet scrubber) for reducing PM, SO2, or carbon monoxide (CO) emissions, burns only gaseous fuels or fuel oils that contain less than or equal to 0.5 weight percent sulfur, and is operated such that emissions of CO discharged to the atmosphere from the affected facility are maintained at levels less than or equal to 0.15 lb/MMBtu on a boiler operating day average basis is not required to operate a COMS. Owners and
operators of affected facilities electing to comply with this paragraph must demonstrate compliance according to the procedures specified in paragraphs (e)(1) through (4) of this section; or

(1) You must monitor CO emissions using a CEMS according to the procedures specified in paragraphs (e)(1)(i) through (iv) of this section.

(i) The CO CEMS must be installed, certified, maintained, and operated according to the provisions in § 60.58b(i)(3) of subpart Eb of this part.

(ii) Each 1-hour CO emissions average is calculated using the data points generated by the CO CEMS expressed in parts per million by volume corrected to 3 percent oxygen (dry basis).

(iii) At a minimum, valid 1-hour CO emissions averages must be obtained for at least 90 percent of the operating hours on a 30-day rolling average basis. The 1-hour averages are calculated using the data points required in § 60.13(h)(2).

(iv) Quarterly accuracy determinations and daily calibration drift tests for the CO CEMS must be performed in accordance with procedure 1 in appendix F of this part.

(2) You must calculate the 1-hour average CO emissions levels for each steam generating unit operating day by multiplying the average hourly CO output concentration measured by the CO CEMS times the corresponding average hourly flue gas flow rate and divided by the corresponding average hourly heat input to the affected source. The 24-hour average CO emission level is determined by calculating the arithmetic average of the hourly CO emission levels computed for each steam generating unit operating day.

(3) You must evaluate the preceding 24-hour average CO emission level each steam generating unit operating day excluding periods of affected source startup, shutdown, or malfunction. If the 24-hour average CO emission level is greater than 0.15 lb/MMBtu, you must initiate investigation of the relevant equipment and control systems within 24 hours of the first discovery of the high emission incident and, take the appropriate corrective action as soon as practicable to adjust control settings or repair equipment to reduce the 24-hour average CO emission level to 0.15 lb/MMBtu or less.

(4) You must record the CO measurements and calculations performed according to paragraph (e) of this section and any corrective actions taken. The record of corrective action taken must include the date and time during which the 24-hour average CO emission level was greater than 0.15 lb/MMBtu, and the date, time, and description of the corrective action.

(f) An owner or operator of an affected facility that is subject to an opacity standard in § 60.43c(c) is not required to operate a COMS provided that the affected facility meets the conditions in either paragraphs (f)(1), (2), or (3) of this section.

(1) The affected facility uses a fabric filter (baghouse) as the primary PM control device and, the owner or operator operates a bag leak detection system to monitor the performance of the fabric filter according to the requirements in section § 60.48Da of this part.

(2) The affected facility uses an ESP as the primary PM control device, and the owner or operator uses an ESP predictive model to monitor the performance of the ESP developed in accordance and operated according to the requirements in section § 60.48Da of this part.

(3) The affected facility burns only gaseous fuels and/or fuel oils that contain no greater than 0.5 weight percent sulfur, and the owner or operator operates the unit according to a written site-specific monitoring plan approved by the permitting authority. This monitoring plan must include procedures and criteria for establishing and monitoring specific parameters for the affected facility indicative of compliance with the opacity standard. For testing performed as part of this site-specific monitoring plan, the permitting authority may require as an alternative to the notification and reporting requirements specified in §§ 60.8 and 60.11 that the owner or operator submit any deviations with the excess emissions report required under § 60.48c(c).
§ 60.48c Reporting and recordkeeping requirements.

(a) The owner or operator of each affected facility shall submit notification of the date of construction or reconstruction and actual startup, as provided by § 60.7 of this part. This notification shall include:

(1) The design heat input capacity of the affected facility and identification of fuels to be combusted in the affected facility.

(2) If applicable, a copy of any federally enforceable requirement that limits the annual capacity factor for any fuel or mixture of fuels under § 60.42c, or § 60.43c.

(3) The annual capacity factor at which the owner or operator anticipates operating the affected facility based on all fuels fired and based on each individual fuel fired.

(4) Notification if an emerging technology will be used for controlling SO2 emissions. The Administrator will examine the description of the control device and will determine whether the technology qualifies as an emerging technology. In making this determination, the Administrator may require the owner or operator of the affected facility to submit additional information concerning the control device. The affected facility is subject to the provisions of § 60.42c(a) or (b)(1), unless and until this determination is made by the Administrator.

(b) The owner or operator of each affected facility subject to the SO2 emission limits of § 60.42c, or the PM or opacity limits of § 60.43c, shall submit to the Administrator the performance test data from the initial and any subsequent performance tests and, if applicable, the performance evaluation of the CEMS and/or COMS using the applicable performance specifications in appendix B of this part.

(c) In addition to the applicable requirements in § 60.7, the owner or operator of an affected facility subject to the opacity limits in § 60.43c(c) shall submit excess emission reports for any excess emissions from the affected facility that occur during the reporting period and maintain records according to the requirements specified in paragraphs (c)(1) through (3) of this section, as applicable to the visible emissions monitoring method used.

(1) For each performance test conducted using Method 9 of appendix A-4 of this part, the owner or operator shall keep the records including the information specified in paragraphs (c)(1)(i) through (iii) of this section.

(i) Dates and time intervals of all opacity observation periods;

(ii) Name, affiliation, and copy of current visible emission reading certification for each visible emission observer participating in the performance test; and

(iii) Copies of all visible emission observer opacity field data sheets;

(2) For each performance test conducted using Method 22 of appendix A-4 of this part, the owner or operator shall keep the records including the information specified in paragraphs (c)(2)(i) through (iv) of this section.

(i) Dates and time intervals of all visible emissions observation periods;

(ii) Name and affiliation for each visible emission observer participating in the performance test;

(iii) Copies of all visible emission observer opacity field data sheets; and

(iv) Documentation of any adjustments made and the time the adjustments were completed to the affected facility operation by the owner or operator to demonstrate compliance with the applicable monitoring requirements.
(3) For each digital opacity compliance system, the owner or operator shall maintain records and submit reports according to the requirements specified in the site-specific monitoring plan approved by the Administrator.

(d) The owner or operator of each affected facility subject to the SO2 emission limits, fuel oil sulfur limits, or percent reduction requirements under § 60.42c shall submit reports to the Administrator.

(e) The owner or operator of each affected facility subject to the SO2 emission limits, fuel oil sulfur limits, or percent reduction requirements under § 60.42c shall keep records and submit reports as required under paragraph (d) of this section, including the following information, as applicable:

(1) Calendar dates covered in the reporting period.

(2) Each 30-day average SO2 emission rate (ng/J or lb/MMBtu), or 30-day average sulfur content (weight percent), calculated during the reporting period, ending with the last 30-day period; reasons for any noncompliance with the emission standards; and a description of corrective actions taken.

(3) Each 30-day average percent of potential SO2 emission rate calculated during the reporting period, ending with the last 30-day period; reasons for any noncompliance with the emission standards; and a description of the corrective actions taken.

(4) Identification of any steam generating unit operating days for which SO2 or diluent (O2 or CO2) data have not been obtained by an approved method for at least 75 percent of the operating hours; justification for not obtaining sufficient data; and a description of corrective actions taken.

(5) Identification of any times when emissions data have been excluded from the calculation of average emission rates; justification for excluding data; and a description of corrective actions taken if data have been excluded for periods other than those during which coal or oil were not combusted in the steam generating unit.

(6) Identification of the F factor used in calculations, method of determination, and type of fuel combusted.

(7) Identification of whether averages have been obtained based on CEMS rather than manual sampling methods.

(8) If a CEMS is used, identification of any times when the pollutant concentration exceeded the full span of the CEMS.

(9) If a CEMS is used, description of any modifications to the CEMS that could affect the ability of the CEMS to comply with Performance Specifications 2 or 3 of appendix B of this part.

(10) If a CEMS is used, results of daily CEMS drift tests and quarterly accuracy assessments as required under appendix F, Procedure 1 of this part.

(11) If fuel supplier certification is used to demonstrate compliance, records of fuel supplier certification as described under paragraph (f)(1), (2), (3), or (4) of this section, as applicable. In addition to records of fuel supplier certifications, the report shall include a certified statement signed by the owner or operator of the affected facility that the records of fuel supplier certifications submitted represent all of the fuel combusted during the reporting period.

(f) Fuel supplier certification shall include the following information:

(1) For distillate oil:

(i) The name of the oil supplier;

(ii) A statement from the oil supplier that the oil complies with the specifications under the definition of distillate oil in § 60.41c; and

(iii) The sulfur content or maximum sulfur content of the oil.
(2) For residual oil:

(i) The name of the oil supplier;

(ii) The location of the oil when the sample was drawn for analysis to determine the sulfur content of the oil, specifically including whether the oil was sampled as delivered to the affected facility, or whether the sample was drawn from oil in storage at the oil supplier's or oil refiner's facility, or other location;

(iii) The sulfur content of the oil from which the shipment came (or of the shipment itself); and

(iv) The method used to determine the sulfur content of the oil.

(3) For coal:

(i) The name of the coal supplier;

(ii) The location of the coal when the sample was collected for analysis to determine the properties of the coal, specifically including whether the coal was sampled as delivered to the affected facility or whether the sample was collected from coal in storage at the mine, at a coal preparation plant, at a coal supplier's facility, or at another location. The certification shall include the name of the coal mine (and coal seam), coal storage facility, or coal preparation plant (where the sample was collected);

(iii) The results of the analysis of the coal from which the shipment came (or of the shipment itself) including the sulfur content, moisture content, ash content, and heat content; and

(iv) The methods used to determine the properties of the coal.

(4) For other fuels:

(i) The name of the supplier of the fuel;

(ii) The potential sulfur emissions rate or maximum potential sulfur emissions rate of the fuel in ng/J heat input; and

(iii) The method used to determine the potential sulfur emissions rate of the fuel.

(g)(1) Except as provided under paragraphs (g)(2) and (g)(3) of this section, the owner or operator of each affected facility shall record and maintain records of the amount of each fuel combusted during each operating day.

(2) As an alternative to meeting the requirements of paragraph (g)(1) of this section, the owner or operator of an affected facility that combuts only natural gas, wood, fuels using fuel certification in § 60.48c(f) to demonstrate compliance with the SO2 standard, fuels not subject to an emissions standard (excluding opacity), or a mixture of these fuels may elect to record and maintain records of the amount of each fuel combusted during each calendar month.

(3) As an alternative to meeting the requirements of paragraph (g)(1) of this section, the owner or operator of an affected facility or multiple affected facilities located on a contiguous property unit where the only fuels combusted in any steam generating unit (including steam generating units not subject to this subpart) at that property are natural gas, wood, distillate oil meeting the most current requirements in § 60.42C to use fuel certification to demonstrate compliance with the SO2 standard, and/or fuels, excluding coal and residual oil, not subject to an emissions standard (excluding opacity) may elect to record and maintain records of the total amount of each steam generating unit fuel delivered to that property during each calendar month.

(h) The owner or operator of each affected facility subject to a federally enforceable requirement limiting the annual capacity factor for any fuel or mixture of fuels under § 60.42c or § 60.43c shall calculate the annual capacity factor individually for each fuel combusted. The annual capacity factor is determined on a 12-month rolling average basis with a new annual capacity factor calculated at the end of the calendar month.
(i) All records required under this section shall be maintained by the owner or operator of the affected facility for a period of two years following the date of such record.

(j) The reporting period for the reports required under this subpart is each six-month period. All reports shall be submitted to the Administrator and shall be postmarked by the 30th day following the end of the reporting period.

[72 FR 32759, June 13, 2007, as amended at 74 FR 5091, Jan. 28, 2009]
Indiana Department of Environmental Management
Office of Air Quality

Technical Support Document (TSD) for a New Source Construction and Part 70 Operating Permit

Source Description and Location

Source Name: Forefront Foam, LLC.
Source Location: 1015 Saint Jerome Street, Mishawaka, Indiana 46544
County: St. Joseph
SIC Code: 3086 (Plastic Foam Products)
Operation Permit No.: T141-41690-00610
Permit Reviewer: Andrea M. Smith

Existing Approvals

There have been no previous approvals issued to this source.

County Attainment Status

The source is located in St. Joseph County.

<table>
<thead>
<tr>
<th>Pollutant</th>
<th>Designation</th>
</tr>
</thead>
<tbody>
<tr>
<td>SO₂</td>
<td>Better than national standards.</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 August 3, 2018, for the 2015 8-hour ozone standard.</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>

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

Fugitive Emissions

Since this type of operation is not one (1) of the twenty-eight (28) listed source categories under 326 IAC 2-2-1(ff)(1), 326 IAC 2-3-2(g), or 326 IAC 2-7-1(22)(B), and there is no applicable New Source
Performance Standard or National Emission Standard for Hazardous Air Pollutants that was in effect on August 7, 1980, fugitive emissions are not 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.

### Background and Description of Emission Units and Pollution Control Equipment

The Office of Air Quality (OAQ) has reviewed an application, submitted by Forefront Foam, LLC. on July 18, 2019, relating to the construction and operation of a stationary expandable polystyrene (EPS) molded products operation.

The EPS Beads are manually loaded into the Pre-Expanders. The Pre-Expanders then transfer the material to Pre-Puff Storage Silo Systems prior to Molding Operations. After completion of the Molding Operations, the material is transferred to the Final Aging and Storage Area until shipment of the final product.

The following is a list of the new emission units at the source:

One (1) Expandable Polystyrene (EPS) Production Line, identified a Line 1, consisting of the following:

(a) One (1) Pre-Expanding Unit, identified as PE1, approved in 2020 for construction, with a maximum throughput of 2.40 tons per hour of plastic beads, using no controls, and exhausting indoors.

(b) One (1) Pre-Puff Storage Silo System, identified as SB1, approved in 2020 for construction, with a maximum throughput of 2.40 tons per hour of plastic beads, using no controls, and exhausting indoors.

(c) One (1) Molding Press, identified as MP1, approved in 2020 for construction, with a maximum throughput of 2.40 tons per hour of plastic beads, using no controls, and exhausting indoors.

(1) One (1) Natural Gas-fired Boiler used to heat the Molding Press, identified as B1, approved in 2020 for construction, with a maximum heat input capacity of 12.60 MMBtu per hour, using no controls, and exhausting to stack B1S.

[Under 40 CFR 60, Subpart Dc, this unit is considered an affected source.]
(d) One (1) Final Storage and Aging Area, identified as FSA1, approved in 2020 for construction, with a maximum throughput of 2.40 tons per hour of plastic, using no controls, and exhausting indoors.

The source also consists of the following insignificant activities:

(a) Ten (10) Natural Gas-fired Radiant Tube Heaters, identified as TH1 through TH10, approved in 2020 for construction, with a combined maximum heat input capacity of 1.50 MMBtu per hour, using no controls, and exhausting to stacks TH1S through TH10S.

(b) Paved Roads

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**Enforcement Issues**

There are no pending enforcement actions related to this source.

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**Emission Calculations**

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

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**Permit Level Determination – Part 70 New Source Construction**

Pursuant to 326 IAC 2-7-1(30), Potential to Emit is defined as “the maximum capacity of a stationary source to emit any air pollutant under its physical and operational design. Any physical or operational limitation on the capacity of a source to emit an air pollutant, including air pollution control equipment and restrictions on hours of operation or type or amount of material combusted, stored, or processed shall be treated as part of its design if the limitation is enforceable by the U.S. EPA.”

The following table is used to determine the appropriate permit level under 326 IAC 2-7. This table reflects the unrestricted potential emissions of the source. If the control equipment has been determined to be integral, the table reflects the potential to emit (PTE) after consideration of the integral control device.

<table>
<thead>
<tr>
<th>Unrestricted Potential Emissions (ton/year)</th>
</tr>
</thead>
<tbody>
<tr>
<td>PM$^{1}$</td>
</tr>
<tr>
<td>---------------------------------------------</td>
</tr>
<tr>
<td>Total PTE of Entire Source Excluding Fugitives*</td>
</tr>
<tr>
<td>Title V Major Source Thresholds</td>
</tr>
<tr>
<td>PSD Major Source Thresholds</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$_{2.5}$.

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

Appendix A of this TSD reflects the detailed unrestricted potential emissions of the source.

(a) The potential to emit (as defined in 326 IAC 2-7-1(30)) of VOC is equal to or greater than one hundred (100) tons per year. Therefore, the source is subject to the provisions of 326 IAC 2-7 and will be issued a Part 70 Operating Permit.

(b) The potential to emit (as defined in 326 IAC 2-7-1(30)) of any single HAP is less than ten (10) tons per year and the potential to emit (as defined in 326 IAC 2-7-1(30)) of a combination of
HAPs is less than twenty-five (25) tons per year. Therefore, this source is an area source under Section 112 of the Clean Air Act (CAA).

**PTE of the Entire Source After Issuance**

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 Part 70 New Source Review Permit, 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>Source-Wide Emissions After Issuance (ton/year)</th>
<th>PM(^1)</th>
<th>PM(_{10})(^1)</th>
<th>PM(_{2.5})(^1,2)</th>
<th>SO(_2)</th>
<th>NO(_X)</th>
<th>VOC</th>
<th>CO</th>
<th>Total HAPs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total PTE of Entire Source Excluding Fugitives*</td>
<td>0.12</td>
<td>0.46</td>
<td>0.46</td>
<td>0.04</td>
<td>6.05</td>
<td>191.58**</td>
<td>5.09</td>
<td>0.11</td>
</tr>
<tr>
<td>Title V Major Source Thresholds</td>
<td>NA</td>
<td>100</td>
<td>100</td>
<td>100</td>
<td>100</td>
<td>100</td>
<td>100</td>
<td>25</td>
</tr>
<tr>
<td>PSD Major Source Thresholds</td>
<td>250</td>
<td>250</td>
<td>250</td>
<td>250</td>
<td>250</td>
<td>250</td>
<td>250</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\(_{2.5}\).

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

** Limited to render 326 IAC 2-2 not applicable.

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

The source opted to take limits in order to render the requirements of 326 IAC 2-2 (Prevention of Significant Deterioration (PSD)) not applicable to this source. See Technical Support Document (TSD) State Rule Applicability - Entire Source section, 326 IAC 2-2 (PSD) and 326 IAC 2-3 (Emission Offset) for more information regarding the limits.

(a) This new source is not a major stationary source, under PSD (326 IAC 2-2), because the emissions of each PSD regulated pollutant are less than the PSD major source thresholds. Therefore, pursuant to 326 IAC 2-2, the PSD requirements do not apply.

(b) This 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. Therefore, this source is an area source under Section 112 of the Clean Air Act (CAA).

**Federal Rule Applicability Determination**

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

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

(a) The Natural Gas-fired Boiler (B1) is subject to the Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units, 40 CFR 60, Subpart Dc and 326 IAC 12, because the Natural Gas-fired Boiler (B1) commenced construction after June 9, 1989 and has a maximum design heat input capacity of greater than or equal to 2.9 MW (10 MMBtu/hr).
The Natural Gas-fired Boiler (B1) is subject to the following portions of Subpart Dc.

- 40 CFR 60.40c(a), (b), and (c)
- 40 CFR 60.41c
- 40 CFR 60.48c(a)(1), (a)(2), (g), (i), and (j)

The requirements of 40 CFR Part 60, Subpart A – General Provisions, which are incorporated as 326 IAC 12-1, apply to the Natural Gas-fired Boiler (B1) except as otherwise specified in 40 CFR 60, Subpart Dc.

(b) The requirements of the Standards of Performance for Industrial-Commercial-Institutional Steam Generating Units, 40 CFR 60, Subpart Db and 326 IAC 12, are not included in the permit for the Natural Gas-fired Boiler (B1), since the Natural Gas-fired Boiler (B1) does not have a heat input capacity greater than 29 megawatts (MW) (100 million British thermal units per hour (MMBtu/hr)).

(c) There are no other New Source Performance Standards (40 CFR Part 60) and 326 IAC 12 included in the permit for this proposed new source.

**National Emission Standards for Hazardous Air Pollutants (NESHAP):**

- (a) The requirements of the National Emission Standards for Hazardous Air Pollutants for Flexible Polyurethane Foam Production, 40 CFR 63, Subpart III and 326 IAC 20-22 are not included in the permit for this source, since this source does not produce flexible polyurethane foam or rebond foam.

- (b) The requirements of the National Emission Standards for Hazardous Air Pollutants: Reinforced Plastic Composites Production, 40 CFR 63, Subpart WWWW and 326 IAC 20-56 are not included in the permit for Line 1, since Line 1 is not located at a major source of HAP emissions.

- (c) The requirements of the National Emission Standards for Hazardous Air Pollutants for Industrial, Commercial, and Institutional Boilers and Process Heaters, 40 CFR 63, Subpart DDDDD and 326 IAC 20-95 are not included in the permit for the Natural Gas-fired Boiler (B1) and Natural Gas-fired Radiant Tube Heaters (TH1 through TH10), since the Natural Gas-fired Boiler (B1) and Natural Gas-fired Radiant Tube Heaters (TH1 through TH10) are not located at a major source of HAP emissions.

- (d) The requirements of the National Emission Standards for Hazardous Air Pollutants: Flexible Polyurethane Foam Fabrication Operations, 40 CFR 63, Subpart MMMMMM and 326 IAC 20-66 are not included in the permit for this source, since this source is not a flexible polyurethane foam fabrication plant and is not a major source of HAP emissions.

- (e) The requirements of the National Emission Standards for Hazardous Air Pollutants for Industrial, Commercial, and Institutional Boilers Area Sources, 40 CFR 63, Subpart JJJJJJ are not included in the permit for the Natural Gas-fired Boiler (B1), since the Natural Gas-fired Boiler (B1) is a gas-fired boiler, as defined in §63.11237.

- (f) There are no National Emission Standards for Hazardous Air Pollutants under 40 CFR 63, 326 IAC 14 and 326 IAC 20 included for this proposed new source.

**Compliance Assurance Monitoring (CAM):**

- (a) Pursuant to 40 CFR 64.2, Compliance Assurance Monitoring (CAM) is applicable to each pollutant-specific emission unit that meets the following criteria:

  - (1) has a potential to emit before controls equal to or greater than the major source threshold for the regulated pollutant involved;
(2) is subject to an emission limitation or standard for that pollutant (or a surrogate thereof); and

(3) uses a control device, as defined in 40 CFR 64.1, to comply with that emission limitation or standard.

(b) Pursuant to 40 CFR 64.2(b)(1)(i), emission limitations or standards proposed after November 15, 1990 pursuant to a NSPS or NESHAP under Section 111 or 112 of the Clean Air Act are exempt from the requirements of CAM. Therefore, an evaluation was not conducted for any emission limitations or standards proposed after November 15, 1990 pursuant to a NSPS or NESHAP under Section 111 or 112 of the Clean Air Act.

(c) Pursuant to 40 CFR 64.2(b)(1)(iii), Acid Rain requirements pursuant to Sections 404, 405, 406, 407(a), 407(b), or 410 of the Clean Air Act are exempt emission limitations or standards. Therefore, CAM was not evaluated for emission limitations or standards for SO₂ and NOₓ under the Acid Rain Program.

(d) Pursuant to 40 CFR 64.3(d), if a continuous emission monitoring system (CEMS) is required pursuant to other federal or state authority, the owner or operator shall use the CEMS to satisfy the requirements of CAM according to the criteria contained in 40 CFR 64.3(d).

Based on this evaluation, the requirements of 40 CFR Part 64, CAM, are not applicable to any of the units as part of this new source construction permit.

### State Rule Applicability - Entire Source

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

**326 IAC 2-2 (PSD)**
PSD and Emission Offset applicability is discussed under the PTE of the Entire Source After Issuance section of this document.

**PSD Minor Source Limits**
The unlimited VOC PTE of the entire source is greater than 250 tons per year.

In order to render the requirements of 326 IAC 2-2 (Prevention of Significant Deterioration (PSD)) not applicable, the Permittee shall comply with the following:

(a) Total VOC emissions from Line 1 shall not exceed one hundred and ninety one and one quarter (191.25) tons per twelve (12) consecutive month period, with compliance determined at the end of each month.

Compliance with this limit, combined with the potential to emit VOC from all other emission units at this source, shall limit the source-wide total potential to emit of VOC to less than 250 tons per twelve (12) consecutive month period, and shall render the requirements of 326 IAC 2-2 (Prevention of Significant Deterioration (PSD)) not applicable.

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

**326 IAC 2-6 (Emission Reporting)**
Since this source is required to have an operating permit under 326 IAC 2-7, Part 70 Permit Program, this source is subject to 326 IAC 2-6 (Emission Reporting). In accordance with the compliance schedule in 326 IAC 2-6-3, an emission statement must be submitted triennially. The emission statement shall contain, at a minimum, the information specified in 326 IAC 2-6-4.
326 IAC 2-7-6(5) (Annual Compliance Certification)
The U.S. EPA Federal Register 79 FR 54978 notice does not exempt Title V Permittees from the requirements of 40 CFR 70.6(c)(5)(iv) or 326 IAC 2-7-6(5)(D), but the submittal of the Title V annual compliance certification to IDEM satisfies the requirement to submit the Title V annual compliance certifications to EPA. IDEM does not intend to revise any permits since the requirements of 40 CFR 70.6(c)(5)(iv) or 326 IAC 2-7-6(5)(D) still apply, but Permittees can note on their Title V annual compliance certifications that submission to IDEM has satisfied reporting to EPA per Federal Register 79 FR 54978. This only applies to Title V Permittees and Title V compliance certifications.

326 IAC 5-1 (Opacity Limitations)
This source is subject to the opacity limitations specified in 326 IAC 5-1-2(2)

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 Matter Limitations Except Lake County)
This source (located in St. Joseph County) is located in one of the counties listed in 326 IAC 6.5, but is not one of the sources specifically listed in 326 IAC 6.5-2 through 326 IAC 6.5-10. The source-wide unlimited PTE of PM is less than 10 tons per year; therefore, the source-wide actual emissions of PM are less than 10 tons per year. This source is not subject to the requirements of 326 IAC 6.5 because the source-wide PTE of PM is less than 100 tons per year and source-wide actual emissions of PM are less than 10 tons per year.

326 IAC 6.8 (Particulate Matter Limitations for Lake County)
Pursuant to 326 IAC 6.8-1-1(a), this source (located in St. Joseph County) is not subject to the requirements of 326 IAC 6.8 because it is not located in Lake County.

<table>
<thead>
<tr>
<th>State Rule Applicability – Individual Facilities</th>
</tr>
</thead>
</table>

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

**Natural Gas Combustion**

326 IAC 6-2-4 (Particulate Matter Emission Limitations for Sources of Indirect Heating)
Pursuant to 326 IAC 6-2-1(d), indirect heating facilities which received permit to construct after September 21, 1983 are subject to the requirements of 326 IAC 6-2-4.

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

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

Where:

- \( Pt \) = Pounds of particulate matter emitted per million British thermal units (lb/MMBtu).
- \( Q \) = Total source maximum operating capacity rating in MMBtu/hr heat input. The maximum operating capacity rating is defined as the maximum capacity at which the facility is operated or the nameplate capacity, whichever is specified in the facility’s permit application, except when some lower capacity is contained in the facility’s operation permit; in which case, the capacity specified in the operation.
<table>
<thead>
<tr>
<th>Facility</th>
<th>Construction Date</th>
<th>Operating Capacity (MMBtu/hr)</th>
<th>Q (MMBtu/hr)</th>
<th>Calculated Pt (lb/MMBtu)</th>
<th>Particulate Limitation, (Pt) (lb/MMBtu)</th>
<th>PM PTE based on AP-42 (lb/MMBtu)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Boiler (B1)</td>
<td>2020*</td>
<td>12.60</td>
<td>14.10</td>
<td>0.55</td>
<td>0.55</td>
<td>0.002</td>
</tr>
<tr>
<td>Radiant Tube Heaters (TH1 through TH10)</td>
<td></td>
<td>1.50</td>
<td></td>
<td>0.55</td>
<td>0.55</td>
<td>0.002</td>
</tr>
</tbody>
</table>

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

Note: Emission units shown in strikethrough were subsequently removed from the source. The effect of removing these units on "Q" is shown in the year the boiler was removed.

*Approved for construction in 2020

326 IAC 7-1.1 Sulfur Dioxide Emission Limitations
These emission units are not subject to 326 IAC 7-1.1 because they each have a potential to emit (or limited potential to emit) sulfur dioxide (SO2) of less than 25 tons per year or 10 pounds per hour.

326 IAC 8-1-6 (VOC Rules: General Reduction Requirements for New Facilities)
Even though, the Natural Gas-fired Boiler (B1) and Natural Gas-fired Radiant Tube Heaters (TH1 through TH10) were constructed after January 1, 1980, they are not subject to the requirements of 326 IAC 8-1-6 because they each have unlimited VOC potential emissions are less than twenty-five (25) tons per year.

326 IAC 9-1 (Carbon Monoxide Emission Limits)
The requirements of 326 IAC 9-1 do not apply to the Natural Gas-fired Boiler (B1) and Natural Gas-fired Radiant Tube Heaters (TH1 through TH10), because this source does not operate a catalyst regeneration petroleum cracking system or a petroleum fluid coker, grey iron cupola, blast furnace, basic oxygen steel furnace, or other ferrous metal smelting equipment.

326 IAC 10-3 (Nitrogen Oxide Reduction Program for Specific Source Categories)
The requirements of 326 IAC 10-3 do not apply to the Natural Gas-fired Boiler (B1) and Natural Gas-fired Radiant Tube Heaters (TH1 through TH10), since these units are not blast furnace gas-fired boilers, Portland cement kilns, or a facilities specifically listed under 326 IAC 10-3-1(a)(2).

Line 1

326 IAC 8-1-6 (VOC Rules: General Reduction Requirements for New Facilities)
Line 1 is subject to the requirements of 326 IAC 8-1-6, because it was constructed after January 1, 1980, and its unlimited VOC potential emissions are equal to or greater than twenty-five (25) tons per year, and Line 1 is not regulated by other rules in 326 IAC 8. Therefore, a Best Available Control Technology (BACT) analysis was required for Line 1 (see Appendix B of this TSD). Line 1 consists of the following individual units:

One (1) Pre-Expanding Unit (PE1)

One (1) Pre-Puff Storage Silo System (SB1)

One (1) Molding Press (MP1)

Final Storage and Aging Area (FSA1)
According to the BACT analysis contained in Appendix B of this TSD, IDEM, OAQ has determined that the following requirements represent BACT for the Line 1:

(a) Total VOC emissions from Line 1 shall not exceed 191.25 tons per twelve (12) consecutive month period, with compliance determined at the end of each month.

(b) The average VOC content of EPS Beads used in Line 1 shall not exceed 4.5%

Compliance Determination and Monitoring Requirements

Permits issued under 326 IAC 2-7 are required to assure that sources can demonstrate compliance with all applicable state and federal rules on a continuous basis. All state and federal rules contain compliance provisions; however, these provisions do not always fulfill the requirement for a continuous demonstration. When this occurs, IDEM, OAQ, in conjunction with the source, must develop specific conditions to satisfy 326 IAC 2-7.5. As a result, Compliance Determination Requirements are included in the permit. The Compliance Determination Requirements in Section D of the permit are those conditions that are found directly within state and federal rules and the violation of which serves as grounds for enforcement action.

If the Compliance Determination Requirements are not sufficient to demonstrate continuous compliance, they will be supplemented with Compliance Monitoring Requirements, also in Section D of the permit. Unlike Compliance Determination Requirements, failure to meet Compliance Monitoring conditions would serve as a trigger for corrective actions and not grounds for enforcement action. However, a violation in relation to a compliance monitoring condition will arise through a source’s failure to take the appropriate corrective actions within a specific time period.

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

(1) The Permittee shall determine VOC emissions from Line 1 according to the following formula:

\[ \text{VOC} = \sum \left[ (E \cdot C \cdot L) + (P \cdot C \cdot L) + (M \cdot C \cdot L) + (FSA \cdot C \cdot L) \right] / 2,000 \text{ lbs/ton} \]

where:

VOC = tons of Line 1 VOC emissions per 12-month consecutive period.

E = tons of EPS Beads processed in Pre-Expanding Machine per 12-month consecutive period.

P = tons of EPS Beads processed in Pre-Puff Storage Silo System per 12-month consecutive period.

M = tons of EPS Beads processed in Molding Machine per 12-month consecutive period.

FSA = tons of EPS Beads processed in Final Storage and Aging Area per 12-month consecutive period.

C = Average VOC content of EPS Beads (4.5%).

L = Average VOC Loss during specific process.

(2) Compliance with the VOC usage limitation shall be determined pursuant to 326 IAC 8-1-4(a)(3) and 326 IAC 8-1-2(a) by preparing or obtaining from the manufacturer the copies
of the “as supplied” and “as applied” VOC data sheets. IDEM, OAQ, reserves the authority
to determine compliance using Method 24 in conjunction with the analytical procedures
specified in 326 IAC 8-1-4.

(3) IDEM, OAQ has determined that testing of Line 1 is not required at this time to determine
compliance with the VOC emission limits, since the source may use MSDS forms and
throughput Quarterly Reports to demonstrate compliance. IDEM has the authority to
require testing at a later time if necessary to demonstrate compliance with any applicable
requirement.

(b) There are no Compliance Monitoring Requirements applicable to this source.

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
June 28, 2019.

The construction and operation of this source shall be subject to the conditions of the attached proposed
New Source Construction and Part 70 Operating Permit No. T141-41690-00610. The staff recommends
to the Commissioner that the New Source Construction and Part 70 Operating Permit be approved.

IDEM Contact

(a) If you have any questions regarding this permit, please contact Andrea M. Smith, 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) 234-
8839 or (800) 451-6027, and ask for Andrea M. Smith or (317) 234-8339.

(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:
## Appendix A: Emission Calculations

### Summary
- **Company Name:** Forefront Foam, LLC.
- **Address City IN Zip:** 1015 Saint Jerome St, Mishawaka, Indiana 46544
- **Permit No.:** T141-41690-00610
- **Reviewer:** Andrea M. Smith

### Uncontrolled Potential to Emit (tons/yr)

<table>
<thead>
<tr>
<th>Process</th>
<th>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>Total HAPs</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Pre-Expanding</strong></td>
<td></td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>227.44</td>
<td>0.00</td>
<td>0.00</td>
<td></td>
</tr>
<tr>
<td><strong>Pre-Puff Storage</strong></td>
<td></td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>180.05</td>
<td>0.00</td>
<td>0.00</td>
<td></td>
</tr>
<tr>
<td><strong>Molding</strong></td>
<td></td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>132.67</td>
<td>0.00</td>
<td>0.00</td>
<td></td>
</tr>
<tr>
<td><strong>Final Storage and Aging</strong></td>
<td></td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>265.34</td>
<td>0.00</td>
<td>0.00</td>
<td></td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td></td>
<td>0.12</td>
<td>0.46</td>
<td>0.46</td>
<td>0.04</td>
<td>6.05</td>
<td>0.33</td>
<td>0.09</td>
<td>0.11</td>
</tr>
<tr>
<td><strong>Paved Roads</strong></td>
<td></td>
<td>0.95</td>
<td>0.19</td>
<td>0.05</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td></td>
</tr>
<tr>
<td><strong>Total with Fugitives</strong></td>
<td></td>
<td>1.06</td>
<td>0.65</td>
<td>0.51</td>
<td>0.04</td>
<td>6.05</td>
<td>0.33</td>
<td>0.09</td>
<td>0.11</td>
</tr>
</tbody>
</table>

### Potential to Emit after Issuance (tons/yr)

<table>
<thead>
<tr>
<th>Process</th>
<th>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>Total HAPs</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Pre-Expanding</strong></td>
<td></td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>54.00</td>
<td>0.00</td>
<td>0.00</td>
<td></td>
</tr>
<tr>
<td><strong>Pre-Puff Storage</strong></td>
<td></td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>48.75</td>
<td>0.00</td>
<td>0.00</td>
<td></td>
</tr>
<tr>
<td><strong>Molding</strong></td>
<td></td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>31.50</td>
<td>0.00</td>
<td>0.00</td>
<td></td>
</tr>
<tr>
<td><strong>Final Storage and Aging</strong></td>
<td></td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>63.00</td>
<td>0.00</td>
<td>0.00</td>
<td></td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td></td>
<td>0.12</td>
<td>0.46</td>
<td>0.46</td>
<td>0.04</td>
<td>6.05</td>
<td>0.33</td>
<td>0.09</td>
<td>0.11</td>
</tr>
<tr>
<td><strong>Paved Roads</strong></td>
<td></td>
<td>0.95</td>
<td>0.19</td>
<td>0.05</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td></td>
</tr>
<tr>
<td><strong>Total with Fugitives</strong></td>
<td></td>
<td>1.06</td>
<td>0.65</td>
<td>0.51</td>
<td>0.04</td>
<td>6.05</td>
<td>0.33</td>
<td>0.09</td>
<td>0.11</td>
</tr>
</tbody>
</table>

*PM$_{2.5}^*$ listed as direct PM$_{2.5}$

Shaded cells indicate where limits are placed.
### Emission Calculations

**Company Name:** Forefront Foam, LLC  
**Address City & Zip:** 1015 Saint Jerome St, Mishawaka, Indiana 46544  
**Permit No.:** T141-41690-00610  
**Reviewer:** Andrea M. Smith

<table>
<thead>
<tr>
<th>Emission Unit</th>
<th>Maximum Throughput (ton/hr)</th>
<th>Maximum VOC Content (%)</th>
<th>Average VOC Loss (%)</th>
<th>Unlimited Potential to Emit (lb/hr)</th>
<th>Unlimited Potential to Emit (ton/yr)</th>
</tr>
</thead>
<tbody>
<tr>
<td>PE1</td>
<td>2.40</td>
<td>4.50%</td>
<td>24.00%</td>
<td>51.93</td>
<td>227.44</td>
</tr>
</tbody>
</table>

**Methodology:**

- Maximum Throughput = 4808 (lb/hr) / 2000 (lb/ton)
- Unlimited Potential to Emit (lb/hr) = Maximum Throughput (ton/hr) * Maximum VOC Content (%) * Maximum VOC Loss (%) * 2000 (lb/ton)
- Unlimited Potential to Emit (ton/yr) = Unlimited Potential to Emit (lb/hr) * 8760 (hr/yr) / 2000 (lb/ton)

**Note:**

1. Maximum VOC Content (%) taken from MSDS for Expandable Polystyrene (CAS: 9003-53-6)
3. The EPS beads contain Pentane for expansion. No blowing agent is used.
### Emission Calculations

#### Pre-Puff Storage

<table>
<thead>
<tr>
<th>Emission Unit</th>
<th>Maximum Throughput (lb/hr)</th>
<th>Maximum VOC Content (%)</th>
<th>Average VOC Loss (%)</th>
<th>Unlimited Potential to Emit (lb/hr)</th>
<th>Unlimited Potential to Emit (ton/yr)</th>
</tr>
</thead>
<tbody>
<tr>
<td>SB1</td>
<td>2.40</td>
<td>4.50%</td>
<td>19.00%</td>
<td>41.11</td>
<td>180.05</td>
</tr>
</tbody>
</table>

**Methodology:**

- Maximum Throughput = 4808 (lb/hr) / 2000 (lb/ton)
- Unlimited Potential to Emit (lb/hr) = Maximum Throughput (lb/hr) * Maximum VOC Content (%) * Maximum VOC Loss (%) * 2000 (lb/ton)
- Unlimited Potential to Emit (ton/yr) = Unlimited Potential to Emit (lb/hr) * 8760 (hr/yr) / 2000 (lb/ton)

**Note:**

1. Maximum VOC Content (%) taken from MSDS for Grade 54 Expandable Polypropylene
### Emission Calculations

<table>
<thead>
<tr>
<th>Emission Unit</th>
<th>Maximum Throughput (lb/hr)</th>
<th>Maximum VOC Content (%)</th>
<th>Average VOC Loss (%)</th>
<th>Unlimited Potential to Emit (lb/hr)</th>
<th>Unlimited Potential to Emit (ton/yr)</th>
</tr>
</thead>
<tbody>
<tr>
<td>MP1</td>
<td>2.40</td>
<td>4.50%</td>
<td>14.00%</td>
<td>30.29</td>
<td>132.67</td>
</tr>
</tbody>
</table>

**Methodology:**
- Maximum Throughput = 4808 (lb/hr) / 2000 (lb/ton)
- Unlimited Potential to Emit (lb/hr) = Maximum Throughput (lb/hr) * Maximum VOC Content (%) * Average VOC Loss (%) * 2000 (lb/ton)
- Unlimited Potential to Emit (ton/yr) = Unlimited Potential to Emit (lb/hr) * 8760 (hr/yr) / 2000 (lb/ton)

**Note:**
1. Maximum VOC Content (%) taken from MSDS for Expandable Polystyrene (CAS: 9003-53-6).
### Emission Calculations

**Methodology:**
- \( \text{Maximum Throughput} = \frac{\text{Maximum Throughput (lb/hr)}}{2000 \text{ (lb/tn)}} \)
- \( \text{Unlimited Potential to Emit} (\text{lb/yr}) = \text{Maximum Throughput (lb/hr)} \times \text{Maximum VOC Content} \times \text{Average VOC Loss} \times 2000 \text{ (lb/tn)} \)
- \( \text{Unlimited Potential to Emit} (\text{ton/yr}) = \frac{\text{Unlimited Potential to Emit} (\text{lb/yr})}{8760 \text{ (hr/yr)}} \)

**Note:**
- *Maximum VOC Content (%) taken from MSDS for Expandable Polystyrene (CAS: 9003-53-6).*

#### Emission Unit

<table>
<thead>
<tr>
<th>Emission Unit</th>
<th>Maximum Throughput (lb/yr)</th>
<th>Maximum VOC Content (%)</th>
<th>Average VOC Loss (%)</th>
<th>Unlimited Potential to Emit (lb/hr)</th>
<th>Unlimited Potential to Emit (ton/yr)</th>
</tr>
</thead>
<tbody>
<tr>
<td>FSA1</td>
<td>2.40</td>
<td>4.50%</td>
<td>28.00%</td>
<td>60.58</td>
<td>265.34</td>
</tr>
</tbody>
</table>

**Appendix A: Emission Calculations**
## Appendix A: Emissions Calculations
### Natural Gas Combustion Only
**MM BTU/HR <100**

#### Company Name:
Forefront Foam, LLC.

#### Address City IN Zip:
1015 Saint Jerome St, Mishawaka, Indiana 46544

#### Permit No.:
T141-41690-00610

#### Reviewer:
Andrea M. Smith

<table>
<thead>
<tr>
<th>Emission Unit</th>
<th>Maximum Heat Input Capacity (MMBtu/hr)</th>
<th>TH1 through TH10</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>1.50</td>
<td>14.10</td>
</tr>
<tr>
<td></td>
<td></td>
<td>1.20</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td><strong>Total</strong></td>
<td><strong>14.10</strong></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Heat Input Capacity</th>
<th>Potential Throughput</th>
</tr>
</thead>
<tbody>
<tr>
<td>mMBtu/hr</td>
<td>MMCF/yr</td>
</tr>
<tr>
<td>14.10</td>
<td>1000</td>
</tr>
<tr>
<td></td>
<td>121.1</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Pollutant</th>
<th>Emission Factor in lb/MMCF</th>
<th>Potential Emission in tons/yr</th>
</tr>
</thead>
<tbody>
<tr>
<td>PM</td>
<td>1.9</td>
<td>0.12</td>
</tr>
<tr>
<td>PM10</td>
<td>7.6</td>
<td>0.46</td>
</tr>
<tr>
<td>direct PM2.5</td>
<td>0.04</td>
<td>0.46</td>
</tr>
<tr>
<td>SO2</td>
<td>0.6</td>
<td>6.96</td>
</tr>
<tr>
<td>NOx</td>
<td>100</td>
<td>0.04</td>
</tr>
<tr>
<td>VOC</td>
<td>5.5</td>
<td>0.33</td>
</tr>
<tr>
<td>CO</td>
<td>84</td>
<td>5.09</td>
</tr>
</tbody>
</table>

*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.

\[ \text{MMBtu} = 1,000,000 \text{ Btu} \]

\[ \text{MMCF} = 1,000,000 \text{ Cubic Feet of Gas} \]

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

\[ \text{Potential Throughput (MMCF/yr)} = \frac{\text{Heat Input Capacity (MMBtu/hr) \times 8,760 \text{ hrs/yr} \times 1 \text{ MMCF/1,020 MMBtu}}}{2,000 \text{ lb/ton}} \]

\[ \text{Emission (tons/yr)} = \text{Throughput (MMCF/yr)} \times \text{Emission Factor (lb/MMCF)} \times 2,000 \text{ lb/ton} \]

#### Hazardous Air Pollutants (HAPs)

**HAPs - Organics**

<table>
<thead>
<tr>
<th>Pollutant</th>
<th>Emission Factor in lb/MMCF</th>
<th>Potential Emission in tons/yr</th>
</tr>
</thead>
<tbody>
<tr>
<td>Benzene</td>
<td>2.1E-03</td>
<td>1.3E-04</td>
</tr>
<tr>
<td>Toluene</td>
<td>7.3E-05</td>
<td>4.6E-03</td>
</tr>
<tr>
<td>Total - Organics</td>
<td>3.4E-03</td>
<td>2.1E-04</td>
</tr>
</tbody>
</table>

**HAPs - Metals**

<table>
<thead>
<tr>
<th>Pollutant</th>
<th>Emission Factor in lb/MMCF</th>
<th>Potential Emission in tons/yr</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lead</td>
<td>3.0E-05</td>
<td>6.7E-05</td>
</tr>
<tr>
<td>Chromium</td>
<td>6.5E-05</td>
<td>2.3E-05</td>
</tr>
<tr>
<td>Manganese</td>
<td>1.3E-04</td>
<td>3.3E-04</td>
</tr>
<tr>
<td>Total - Metals</td>
<td>1.3E-04</td>
<td>3.3E-04</td>
</tr>
</tbody>
</table>

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
Fugitive Dust Emissions - Paved Roads

Company Name: Forefront Foam, LLC.
Address: 2015 Saint Jerome St, Mishawaka, Indiana 46544
Permit No.: T141-41690-00610
Reviewer: Andrea M. Smith

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).

<table>
<thead>
<tr>
<th>Vehicle Information (provided by source)</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 (mi/trip)</th>
<th>Maximum one-way miles (miles/day)</th>
<th>Maximum one-way miles (miles/yr)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Semi-Tractor Trailer (entering plant) (one-way trip)</td>
<td>8.0</td>
<td>1.0</td>
<td>8.0</td>
<td>40.0</td>
<td>320.0</td>
<td>500</td>
<td>0.095</td>
<td>0.8</td>
</tr>
<tr>
<td>Semi-Tractor Trailer (leaving plant) (one-way trip)</td>
<td>8.0</td>
<td>1.0</td>
<td>8.0</td>
<td>40.0</td>
<td>320.0</td>
<td>500</td>
<td>0.095</td>
<td>0.8</td>
</tr>
</tbody>
</table>

**Totals**: 16.0, 640.0, 1.5, 553.0

Average Vehicle Weight Per Trip = 40.0 tons/trip
Average Miles Per Trip = 0.095 miles/trip

Unmitigated Emission Factor, \( E_f = \left( \frac{k \times (sL)^{0.91} \times W^{1.02}}{10000} \right) \) (Equation 1 from AP-42 13.2.1)

where:
- \( k = 0.011 \) (PM, \( 0.0022 \) (PM10), \( 0.00054 \) (PM2.5) lb/VMT = particle size multiplier (AP-42 Table 13.2.1-1)
- \( sL = 9.7 \) (g/m²) = silt loading value for paved roads at iron and steel production facilities - Table 13.2.1-3
- \( W = 40.0 \) (tons) = average vehicle weight (provided by source)

Mitigated Emission Factor, \( E_{ext} = E_f \times \left( 1 - \frac{p}{4N} \right) \) (Equation 2 from AP-42 13.2.1)

where:
- \( p = 125 \) (days of rain greater than or equal to 0.01 inches) (see Fig. 13.2.1-2)
- \( N = 365 \) (days per year)

<table>
<thead>
<tr>
<th>Process</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>Semi-Tractor Trailer (entering plant) (one-way trip)</td>
<td>0.47</td>
<td>0.09</td>
<td>0.02</td>
</tr>
<tr>
<td>Semi-Tractor Trailer (leaving plant) (one-way trip)</td>
<td>0.47</td>
<td>0.09</td>
<td>0.02</td>
</tr>
<tr>
<td><strong>Totals</strong></td>
<td><strong>0.95</strong></td>
<td><strong>0.19</strong></td>
<td><strong>0.05</strong></td>
</tr>
</tbody>
</table>

Methodology:
- Total Weight driven per day (ton/day) = [Maximum Weight Loaded (tons/trip)] * [Maximum trips per day (trip/day)]
- Maximum one-way distance (mi/trip) = [Maximum one-way miles (miles/day)] / [Sorting factor]
- Average Miles Per Trip (mi/trip) = SUM[Maximum one-way miles (miles/day)] / SUM[Maximum trips per day (trip/day)]

Abbreviations:
- PM = Particulate Matter
- PM10 = Particulate Matter (\(<10 \mu m\) unit)
- PM2.5 = Particulate Matter (\(<2.5 \mu m\) unit)
- PTE = Potential to Emit
- PTE = Potential to Emit
Indiana Department of Environmental Management
Office of Air Quality

Appendix B – BACT Analysis
New Source Construction and Part 70 Operating Permit

Source Background and Description

<table>
<thead>
<tr>
<th>Source Name</th>
<th>Forefront Foam, LLC.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Source Location</td>
<td>1015 Saint Jerome Street, Mishawaka, Indiana 46544</td>
</tr>
<tr>
<td>County</td>
<td>St. Joseph County</td>
</tr>
<tr>
<td>SIC Code</td>
<td>3086 (Plastic Foam Products)</td>
</tr>
<tr>
<td>Operation Permit No.</td>
<td>T141-41690-00610</td>
</tr>
<tr>
<td>Permit Reviewer</td>
<td>Andrea M. Smith</td>
</tr>
</tbody>
</table>

Background

The Office of Air Quality (OAQ) has reviewed an application, submitted by Forefront Foam, LLC. on July 18, 2019, relating to the construction and operation of an expandable polystyrene (EPS) molded products operation.

Requirement for Best Available Control Technology (BACT)

326 IAC 2-2 requires a Best Available Control Technology (BACT) review to be performed on the new Line 1, because Line 1 was constructed after January 1, 1980, its unlimited VOC potential emissions are equal to or greater than twenty-five (25) tons per year, and Line 1 is not regulated by other rules in 326 IAC 8.

Emission Units

The following is a list of the new emission units, approved in 2019 for construction, at the source for which a BACT analysis is required:

One (1) Expandable Polystyrene (EPS) Production Line, identified a Line 1, consisting of the following:

(a) One (1) Pre-Expanding Unit, identified as PE1, approved in 2020 for construction, with a maximum throughput of 2.40 tons per hour of plastic beads, using no controls, and exhausting indoors.

(b) One (1) Pre-Puff Storage Bin, identified as SB1, approved in 2020 for construction, with a maximum throughput of 2.40 tons per hour of plastic beads, using no controls, and exhausting indoors.

(c) One (1) Molding Press, identified as MP1, approved in 2020 for construction, with a maximum throughput of 2.40 tons per hour of plastic beads, using no controls, and exhausting indoors.

(d) One (1) Final Storage and Aging Area, identified as FSA1, approved in 2020 for construction, with a maximum throughput of 2.40 tons per hour of plastic, using no controls, and exhausting indoors.
BACT is a case by case 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. There will still be air pollution from this project; however, Forefront Foam, LLC. will be required to demonstrate that the emissions will be reduced to maximum extent.

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, energy, environmental, and economic impacts. The technology that is the most efficient (produces the lowest emission rate or greatest emission reduction) is considered first, only if it is economically or technically infeasible to install that particularly equipment is the first technology rejected and the second technology considered. The process continues until an economically and technically feasible technology is determined. 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.

The five (5) basic steps of a top-down BACT analysis used by the Office of Air Quality (OAQ) for 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. IDEM evaluates any innovative controls if proposed by the source. A control technology is considered available when there are sufficient data indicating that the technology results in a reduction in emissions of regulated pollutants.

Forefront Foam, LLC. has not submitted any innovative control technology.
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.

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.

Step 5: Select BACT

The Office of Air Quality (OAQ) makes final BACT determinations by following the five steps identified above.

VOC BACT – Line 1

Step 1: Identify Potential Control Technologies

(a) Thermal Oxidation;
(b) Catalytic Oxidation;
(c) Adsorption;
(d) Condensation Systems;
(e) Bio-Filtration;
(f) Absorption; or
(g) Operational Techniques.

Step 2: Eliminate Technically Infeasible Options

(a) Thermal Oxidation

Thermal oxidizers regularly achieve 97% to 99% destruction efficiencies because of the inherent efficiency of the combustion processes. Thermal oxidizers typically consist of an enclosed combustion chamber with an auxiliary burner fired with a conventional fuel. The firing rate of the burner is automatically controlled to maintain a preset combustion chamber temperature. Thermal oxidizers provide maximum operating flexibility because they can handle most known VOCs at a wide range of concentrations and flows.
However, thermal oxidizers require relatively high fuel input because of operating temperatures. Heat recovery is frequently used with thermal oxidation systems to minimize the fuel operating cost, especially with low concentrations of VOC. Heat recovery devices used in VOC systems are most commonly indirect recuperative heat exchangers or thermal mass regenerative heat exchangers.

(1) Recuperative Thermal Oxidizers

These systems employ an indirect heat exchanger device to preheat the VOC laden fume. They are applied to oxidizers that operate at temperatures as high as 1800°F. The maximum design efficiency is usually dictated by the exchanger outlet temperature and the VOC content in the stream.

Recuperative thermal oxidization has been determined to be technically feasible; however the capital cost is approximately 30% higher than regenerative thermal oxidation with the same destructive efficiency. Therefore, no economic evaluation was performed for a recuperative system.

(2) Regenerative Thermal Oxidizers (RTO)

These systems employ a large thermal mass to collect the heat and return it to the incoming fume. Each oxidizer is supplied with several large “cells” which are filled with ceramic packing. The cells are alternated from heat-up to cool-down cycles for fume preheating by a series of dampers and ducts on the outlet side of the system. These units can achieve high removal efficiencies (95-98%) at relatively low temperatures (1400-1500°F) because of the thorough mixing in the ceramic packing sections. These systems are more maintenance-intensive than recuperative types because of the mechanical system that performs the alternating of cells.

Regenerative thermal oxidation has been determined not to be technically feasible for the following operations:

(A) Entire Line 1;

(B) Molding Press only; and

(C) Final Storage and Aging Area.

A permanent total enclosure of the entire Line 1 would restrict the flow of raw material between processes, since it would require the installation of interlocking doors at all points of access to the building. In addition, the operation would require in excess of 140,000 acfm to properly address the accumulation of explosive vapors.

With the Molding Press, the need for piping and structures vital to the molding process would be infeasible from an engineering perspective to completely enclose.

For the Final Storage and Aging Area, the loading operations to tractor-trailers would require the entire semi tractor-trailers to be enclosed and is considered impractical and infeasible. In addition, these operation would require in excess of 100,000 cfm to properly address the accumulation of explosive vapors. Control devices where the airflow exceeds 100,000 acfm are not constructed since the cost and construction are considered to be excessive and require specialized design.
Therefore, no economic evaluation was performed for a regenerative system for: Line 1, the Molding Press, or the Final Storage and Aging Area.

(3) Boiler Oxidation Steam System (BOSS)

A Boiler Oxidation Steam System (BOSS) uses the VOC-laden air stream as a fuel source for combustion to produce steam. These types of systems require a combustion device capable of regulating auxiliary fuel input to maintain consistent combustion conditions. Combustion devices such as boilers must be designed in a manner that allows for flexible combustion conditions and must accommodate variable moisture and VOC contents of the gas stream.

The proposed process will operate in an intermittent (batch) state with a significant fluctuation in both the VOC and moisture contents. A BOSS cannot accommodate fluctuations of more than ten percent (10%) VOC or moisture and therefore this form of control has been determined to be technically infeasible. No further evaluation of this control will be conducted.

(b) Catalytic Oxidation

Removal efficiencies of 95% are commonly achieved and some units are designed for temperatures as low as 98°F. Catalytic oxidation units consist of an enclosed combustion chamber with an auxiliary burner firing on a conventional fuel gas followed by a catalyst section. The burner is used to heat the contaminated air stream gas to approximately 600°F before it contacts the catalyst. Here, oxidation of the organic material occurs and the gases exit the catalyst bed at a higher temperature. The principle advantage of the catalytic system is lower operating temperatures and the resulting lower fuel consumption. Catalytic systems handle a wide range of VOCs but are less flexible than thermal oxidizers. Catalytic systems are usually limited to 1100-1300°F outlet temperatures, which limits VOC inputs to a maximum of 25% of LEL. As with the thermal oxidizers, fume preheating devices are commonly used to minimize operating costs.

Catalytic oxidizers are not recommended for applications where the potential for unsaturated monomers exist. Thermal reduction of polystyrene to styrene monomer will occur and can accumulate on the surface of the catalyst and create maintenance and pressure drop problems due to fouling. The buildup of monomers on the catalyst bed is progressive and shortens the life cycle of the catalyst by approximately 50% increasing the annual operation cost of the unit. Therefore, catalytic oxidizers are deemed technically infeasible. No further evaluation of this control will be conducted.

(c) Adsorption

In the Adsorption process, organic compounds are collected on the surface and pores of a porous solid media. The solid media contains unsaturated chemical bonding sites at its surface and within specially sized pores that attract and weakly hold organic matter to the surfaces. Under the influence of heated air or nitrogen, the organic contaminants can be removed as a concentrated stream for further treatment. The efficiency of the adsorption system is dependent upon the presence of moisture, the molecular size and weight of the organic compound that is targeted, and its chemical and physical properties. For example, high boiling point compounds (i.e., those with a boiling point greater than 300 degrees F) cannot be effectively
desorbed from the adsorption media.

(1) Carbon Adsorption

Activated carbon is a standard adsorbent for organic vapors. Carbon adsorption systems are typically used for non-water soluble solvents. This is because water-soluble compounds generally cannot be removed from the media. Activated carbon is not recommended for air streams where the relative humidity is greater than 50% or in the presence of high moisture air streams. This is because the water competes with the organic compounds for a place on the media. Heated air or nitrogen is used to remove the VOCs from the carbon bed and the resulting VOC can then be recovered.

Carbon adsorption systems are not recommended for high volumes and low concentration of VOC emission applications. Adsorption is best suited for low volume, high concentration streams of VOCs that can then be recovered as the carbon bed is regenerated. Therefore, this control method is technically infeasible.

No further evaluation of this control will be conducted.

(2) Synthetic Zeolite Concentrators

Synthetic Zeolite Concentrators have a uniform crystalline structure with high specific surface areas and small, uniformly sized pores. Zeolites are sometimes called “molecular sieves” because their pores trap molecules of specific sizes, while allowing other molecules to pass through. For a given application, the zeolite must be carefully selected to match the molecular diameter of the VOCs to be removed.

Synthetic Zeolite Concentrators is typically used to treat high-flow, low-concentration waste streams with VOC concentrations less than 150 ppmv and flow rates above 3,000 cfm. Since the VOC concentration of the process is higher than 15 ppmv, this control method is technically infeasible.

No further evaluation of this control will be conducted.

(d) Condensation Systems

Emissions sources that have low flow rates of high concentration VOCs (up to 100%) such as tank vents are ideal applications for refrigerated and cryogenic condensers. The condensed liquid is returned to the process and non-condensable liquids (with low levels of VOCs) are vented to the atmosphere.

(1) Single Stage

Single stage systems, which can reduce the vented gas stream to minus 20°F, can be used for high boiling compounds (such as gasoline tank vapors from tank transfer operations), and can achieve 90-95% control efficiencies. High control efficiencies require lower temperatures and more complexity such as multiple stages and pumping systems.

(2) Multi-Stage Systems

Cascade (multi-stage) condensing systems using cryogenics can produce temperatures as low as minus 120°F. These systems are required for lower
molecular weight VOCs with high vapor pressures or for vent streams with significant condensables such as nitrogen from air.

Condensation/refrigeration systems are used for very low volume, high VOC concentrations (up to 100%), such as those from gasoline tank transfer or chemical manufacturing process operations. The airflow of the source is a high volume, low concentration exhaust and therefore, technically infeasible.

No further evaluation of this control will be conducted.

(e) Bio-Filtration

Bio-filtration systems utilize living organisms to decompose vapor organic compounds. The bio-filtration system consists of large beds of organic material, such as wood chips, which are continually irrigated such that each piece of bed material is covered with a thin film of water. The organisms live in the film and use the organic contaminants as a food source. The rate of degradation of the VOC in the film layer is a function of each specific compound’s critical concentration and the biological activity in the film, as well as diffusion of the VOC through the bed.

The rate of the biodegradation process, as well as diffusion limitations, make these systems best suited to very low concentration vent streams, particularly odorous gas streams. Control efficiencies are dependent upon bed temperatures, humidity, and VOC concentration to ensure continued growth of the microorganisms. A common problem with bio-filter control efficiency is partial or complete “death” of the bed that can occur should any of these parameters or a variation in the VOC content occur. Large flow rates require huge volumes of bed material, in some instances requiring the construction of entire buildings strictly to contain the necessary volume of bedding.

Bio-filtration is a developmental technology that has limited use in industrial air quality control applications. Bio-filtration has several limitations that make its application to this source unacceptable. First, the control efficiency is not a qualitative value and is dependent upon many operational conditions such as VOC concentration, consistent VOC compounds, consistent humidity levels and ambient temperatures. Should any of these parameters vary, partial or complete bed activity levels will be affected which then affects control efficiency. In addition, large flow rates require tremendous volumes of bedding. Therefore, bio-filtration is discounted as an acceptable technology for this application.

No further evaluation of this control will be conducted.

(f) Absorption

Absorption is a commonly-applied operation in chemical processing that is used as a raw material or product recovery technique in the separation and purification of gaseous streams containing high concentrations of organics. In absorption, the organics in the gas stream are dissolved in a liquid. The contact between the absorbing liquid and the gas stream is accomplished in counter current spray towers, scrubbers, or packed or plate columns. The resulting material from the absorption cycle must be treated or disposed once the solution reaches its saturation point. The scrubbing liquid containing the contaminant is typically regenerated in a stripping column in conditions of elevated temperature or reduced pressure (vacuum conditions). The contaminant is then recovered using a condenser.

Liquid absorption requires the contaminant to be soluble in the absorbing liquid. Current technology uses either water or mineral oil as the absorbing liquid. The contaminant
compound used at the source is not soluble in either of these liquids. Therefore, this technology is determined to be technically infeasible.

No further evaluation of this control will be conducted.

(g) Operational Techniques

Other techniques used to control VOC emissions include lower VOC content materials, material substitution, and limited throughput. These options reduce VOC emissions directly by reducing VOC input to the process.

Lower VOC content material usage is technically feasible on a case-by-case product basis.

Step 3: Rank the Remaining Control Technologies by Control Effectiveness

The remaining technically feasible control options for controlling VOC emissions from Line 1 are ranked below by control efficiency:

<table>
<thead>
<tr>
<th>Control Technology</th>
<th>Process</th>
<th>Capture Efficiency (%)</th>
<th>Control Efficiency (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Regenerative Thermal Oxidizer (RTO)</td>
<td>Pre-Expander and Pre-Puff Storage</td>
<td>95.0</td>
<td>98.0</td>
</tr>
<tr>
<td>Regenerative Thermal Oxidizer (RTO)</td>
<td>Pre-Expander-only</td>
<td>95.0</td>
<td>98.0</td>
</tr>
<tr>
<td>Regenerative Thermal Oxidizer (RTO)</td>
<td>Pre-Puff Storage-only</td>
<td>95.0</td>
<td>98.0</td>
</tr>
</tbody>
</table>

Step 4: Evaluate the Most Effective Controls and Document the Results

The following table lists the proposed BACT determination for Forefront Foam, LLC. along with the existing BACT determinations for similar emission units. All data in the table is based on the information obtained from the U.S. EPA RACT/BACT/LAER Clearinghouse (RBLC), Indiana issued permits, and electronic versions of permits available at the websites of other permitting agencies. The sources are listed by with the proposed source first and then sources with similar operations.
Facility, Date Issued, Construction | Affected Units/Process Description | Control Method | Limitation
--- | --- | --- | ---
**Forefront Foam, LLC.**  
Mishawaka, IN  
141-41690-00610  
(proposed)  
Proposed New Source Construction | **EPS Production Line Polystyrene**  
(Line 1: Pre-Expander, Pre-Puff Storage Bin, Molding Press, and Final Storage and Aging Area) | Operational Techniques  
(no control device) | Total VOC emissions from Line 1 shall not exceed 191.25 tons per twelve (12) consecutive month period.  
The average VOC content of EPS Beads used in Line 1 shall not exceed 4.50%.

No cost analysis was conducted for the following scenarios, because installing control devices, such as RTO, are not technically feasible:
(a) Entire Line 1 - encompasses the Pre-Expander, Pre-Puff Storage Bin, Molding Press, and the Final Storage Aging Area.
(b) Molding Press - heats and shapes the EPS beads into the final product, and
(c) Final Storage and Aging Area - is a warehouse where the final EPS product is cool-off and are stored prior to shipment.

See Step 2 Technical feasibility analysis documented above for more details.

Cost analysis for different scenarios have been conducted for the proposed new source. Cost effectiveness ranges from $11,694 to $36,628 per ton VOC removed. See Appendix C for details of the cost analysis for the proposed source. Below are the summary tables:

<table>
<thead>
<tr>
<th>Unit(s)/Process</th>
<th>Limited VOC Emissions (tons/year)</th>
<th>Cost Effectiveness ($/ton)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pre-Expander &amp; Pre-Puff Storage</td>
<td>96.75</td>
<td>$16,835</td>
</tr>
<tr>
<td>Pre-Expander only</td>
<td>54.00</td>
<td>$11,694</td>
</tr>
<tr>
<td>Pre-Puff Storage only</td>
<td>42.75</td>
<td>$36,628</td>
</tr>
</tbody>
</table>

Pursuant to Section IV.D.2.c of EPA's BACT Guidance Document, costs that are within the range of normal costs for a control method may be reviewed in comparison to similar sources. This comparison may allow for the elimination of a technologically - and otherwise economically-feasible control option, provided that the costs of pollutant removal for the subject source are unduly high when compared to the costs borne by sources in recent BACT determinations.

Based on the results of the cost analysis, it is not economically feasible to control the VOC emissions from the entire line or set of processes using an add-on control.

The maximum potential to emit of VOC of Line 1 is 805.78 tons/year and the proposed limited potential to emit of VOC (191.25 tons/year) represents a reduction of approximately 76.25% of VOC emissions, achieved without the use of a control device and the associated expenditure for supplemental fuel for the control device, or resulting in collateral cost and emissions.

The proposed BACT is the use of the lowest pentane-content beads technically possible to meet customer product specifications. As will be shown in the preceding comparison, this VOC content (4.50%) is either more stringent or comparable to the other VOC content for existing similar EPS operations.
Facility, Date Issued, Construction | Affected Units/Process Description | Control Method | Limitation
--- | --- | --- | ---
EFP, LLC. | EPS Production Line Polystyrene (Line 1: Pre-Expander, Pre-Puff Storage Bins, Molding Presses and Final Storage and Aging Area) | Operational Techniques (no control device) | Throughput of Expandable Polystyrene (EPS) Beads to Line 1 shall not exceed 3,000 tons per twelve (12) consecutive month period, with compliance determined at the end of each month.
The average VOC content of EPS Beads used in Line 1 shall not exceed 4.99%.
(This is equivalent to 127.31 tons/year of VOC from the entire Line 1.)

Forefront Foam, LLC. and EFP, LLC. use similar EPS beads, have proposed similar processes, and are both new sources. The 2019 BACT determined for EFP, LLC. was that add-on controls are not economically feasible.

The cost analysis for different scenarios were conducted for EFP, LLC., after elimination of technically infeasible control on the entire Line 1, Molding Presses, and Final Storage and Aging Area. Below are the summary tables:

<table>
<thead>
<tr>
<th>Unit(s)/Process</th>
<th>Limited VOC Emissions (tons/year)</th>
<th>Cost Effectiveness ($/ton)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pre-Expander &amp; Pre-Puff Storage</td>
<td>64.21</td>
<td>$16,948</td>
</tr>
<tr>
<td>Pre-Expander only</td>
<td>35.92</td>
<td>$13,329</td>
</tr>
<tr>
<td>Pre-Puff Storage only</td>
<td>28.29</td>
<td>$32,737</td>
</tr>
</tbody>
</table>

In addition, the VOC content (4.50%) of the EPS beads being proposed by Forefront Foam, LLC. is more stringent that the proposed VOC content (4.99%) for EFP, LLC. Therefore, this is a valid comparison.
<table>
<thead>
<tr>
<th>Facility, Date Issued, Construction</th>
<th>Affected Units/Process Description</th>
<th>Control Method</th>
<th>Limitation</th>
</tr>
</thead>
</table>
| EFP, LLC. Elkhart, IN 039-29482-00099 December 17, 2010 New Unit to an Existing Source | EPS Production Line (Pre-Expander only) (5,900.0 lbs Beads/hr) | Operational Techniques (No Control Device)                                 | Average VOC content of EPS Beads shall not exceed 6.0%.  
VOC content of EPE Beads shall not exceed 12%.  
Source shall search for material with lower VOC content. |

Both EFP, LLC. and Forefront Foam, LLC. use the same type of EPS beads, however, the 2010 BACT for EFP, LLC. was for only a single Pre-Expander at the existing source, not for an entire line at a new source.

The cost analysis made in 2010 for an add-on control for the Pre-Expander-only ranged from $5,975 to $8,464 per ton removed and were concluded to be not economically feasible.

For a direct comparison, the cost for only a single Pre-expander at Forefront Foam, LLC. is $11,694 per ton VOC removed, which is $5,719.00 per ton VOC higher than the cost for a similar Pre-expander. Based on this comparison, an add-on control for the Pre-expander only is not economically feasible.

In addition, the VOC content (4.50%) of the EPS beads being proposed by Forefront Foam, LLC. is more stringent that the existing VOC content (6.0%) for EFP, LLC.
<table>
<thead>
<tr>
<th>Facility, Date Issued, Construction</th>
<th>Affected Units/Process Description</th>
<th>Control Method</th>
<th>Limitation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cellofoam North America, Inc.</td>
<td>Polystyrene Foam Production Line</td>
<td>Operational Techniques (No Control Device)</td>
<td>VOC content by weight shall not exceed 5.0%. VOC content shall not exceed 6.0%. Total VOC emissions from Line 1 shall not exceed 150.0 ton/year</td>
</tr>
<tr>
<td>IN-0284/081-39158-00017 May 9, 2018</td>
<td>(Block Molding Line, Shape Molding Line, Storage Operation, Saws and Drills, Conveyors, and Hot Wire Cutters) 5,754.51 lb EPS/hr and 206.64 lb butane/hr</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Modification to Existing Units</td>
<td>Previous BACT 18332 April 7, 2004</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Forefront Foam, LLC. and Cellofoam North America, Inc. use similar EPS beads, however, the 2018 BACT for Cellofoam North America, Inc. was to increase the throughput of the EPS beads processed by an existing operation, not for an entire new line at a new source. The existing operation was already subject to BACT. The 2004 BACT for and Cellofoam North America, Inc. was that add-on controls are not economically feasible.

In the 2018 BACT analysis for Cellofoam North America, Inc., different scenarios were evaluated and cost effectiveness ranged from $9,581 to $21,348 per ton VOC removed and the conclusion was that add-on controls were still not economically feasible. The cost effectiveness for the proposed Forefront Foam, LLC. ranges from $11,694 - $36,628 per ton VOC removed, which are comparable per ton of VOC removed. Based on this, an add-on control device is not economically feasible for Forefront Foam, LLC.

The VOC content (4.50%) of the EPS beads being proposed by Forefront Foam, LLC. is comparable to the existing VOC content (5.0%) for Cellofoam North America, Inc.
<table>
<thead>
<tr>
<th>Facility, Date Issued, Construction</th>
<th>Affected Units/Process Description</th>
<th>Control Method</th>
<th>Limitation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Carpenter Co.</td>
<td>EPS Production Line</td>
<td>Regenerative Thermal Oxidizer (RTO) for the Pre-Expander and Molding Machine only. (No Control Device for the Rest of the Line)</td>
<td>VOC content by weight shall not exceed 7.0%. Input of EPS Beads shall not exceed 11,000,000 lb/year. A Permanent Total Enclosure (PTE) shall be used for EU-7.1 (Pre-Expander) through EU-7.4 (Molding Machine). 98% rolling 3-hour average destruction efficiency. VOC Emissions shall not exceed 1.29 lb VOC/ton EPS Beads. The Block Molding Machine shall not exceed 6.72 lb VOC/ton EPS Beads, before control. The Storage and Fabrication Area shall not exceed 33.60 lb VOC/ton EPS Beads, before control.</td>
</tr>
<tr>
<td>IN-0270/039-38206-00086 June 13, 2017</td>
<td>(Pre-Expander, Drying Bed, Block Molding Machine, Storage and Fabrication Area)</td>
<td>18,400.0 lb EPS Beads/year</td>
<td></td>
</tr>
<tr>
<td>Modification to Existing Units</td>
<td>Previous BACT 31756 November 15, 2012</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Forefront Foam, LLC. and Carpenter Co. use similar EPS beads, however, the 2017 BACT for Carpenter Co. was to increase the throughput of EPS beads processed by an existing operation, not for an entire new line at a new source. The existing BACT specified an add-on control for the Pre-Expander and Molding Machine, but no add-on control for the rest of the line.

The 2017 BACT for Carpenter Co. was to increase the limited annual throughput from 9,500,000 lbs/year to 11,000,000 lbs/year and VOC content from 6.5% to 7.0%. This is a higher VOC content than the VOC content (4.50%) being proposed by Forefront Foam, LLC.

In addition, Forefront Foam, LLC. is able to take a lower VOC content limit, thus reducing VOC emissions and achieving this without the use of an add-on control device and the associated expenditure for supplemental fuel for the control device, or resulting in collateral cost and emissions.
<table>
<thead>
<tr>
<th>Facility, Date Issued, Construction</th>
<th>Affected Units/Process Description</th>
<th>Control Method</th>
<th>Limitation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fagerdala – Paclite, Inc. MI-0273/402-99A October 13, 2000 Modification to an Existing Source/New Units and Modifying Existing Units</td>
<td>Expandable Polystyrene Molding (Pre-Expansion, Storage, and Molding) (1,000.0 tons/year)</td>
<td>Operational Techniques (No Control Devices)</td>
<td>Total Pentane emissions shall not exceed 5.75 Lbs/100.0 Lbs Beads Total Pentane emissions shall not exceed 37.0 lbs /hr Total Pentane emissions shall not exceed 82.0 Tons /Year Total Pentane amount shall not exceed 7.0% weight of beads used.</td>
</tr>
<tr>
<td>Genpak, LLC. IN-0266/143-37545-00016 May 8, 2017 Modification to an Existing Source/New Unit</td>
<td>Polystyrene Foam Production Line (Repelletizer only) 67.38 lb EPS/hr</td>
<td>Regenerative Thermal Oxidizer (RTO) for the Repelletizer only</td>
<td>The Repelletizer shall be controlled by a RTO, with a minimum destruction efficiency of 98.0%. The Capture System for the Repelletizer shall utilize a Permanent Total Enclosure to ensure 100% VOC capture efficiency. Total VOC emissions from the Repelletizer shall not exceed 0.64 lb VOC/hr.</td>
</tr>
</tbody>
</table>

Forefront Foam, LLC. and Fagerdala – Paclite, Inc. use similar EPS beads, however, this 2000 BACT for Fagerdala – Paclite, Inc. was for modification to an existing source to increase the throughput of EPS beads, not for a new entire line at a new source. The 2000 BACT was to increase the annual throughput to 1,000.0 tons/year and limit the Pentane (VOC) content 7.0%. This is a higher VOC content than the VOC content (4.50%) being proposed by Forefront Foam, LLC. Since the VOC content for Fagerdala – Paclite, Inc. (7.0%) is higher than Forefront Foam, LLC. (4.50%) and is a modification to increase throughput of an existing process, this is not a valid comparison to the proposed Forefront Foam, LLC. Line 1.

Forefront Foam, LLC. and Genpak, LLC. use similar EPS beads, however, the 2017 BACT for Genpak, LLC. was for a Repelletizer only at an existing source, not for a new entire line at a new source. Forefront Foam, LLC. is not proposing to install a repelletizer. Due to the difference in process and intent of the project, this BACT is eliminated for consideration. Also, Forefront Foam, LLC. is able to take a lower VOC content (4.50%) thus reducing VOC emissions and achieving this without the use of an add-on control device and the associated expenditure for supplemental fuel for the control device, or resulting in collateral cost and emissions. Therefore, this existing 2017 BACT for Genpak, LLC. cannot be used for comparison due to the difference in operation.
<table>
<thead>
<tr>
<th>Facility, Date Issued, Construction</th>
<th>Affected Units/Process Description</th>
<th>Control Method</th>
<th>Limitation</th>
</tr>
</thead>
<tbody>
<tr>
<td>New NGC, Inc., dba National Gypsum Company 165-35908-00081 August 30, 2016 Modification of an Existing Source/Incorporation of New BACT Requirements</td>
<td>EPS Production Line (Polystyrene Expansion, Aging, and Drying System) 2,205.0 lb/hr</td>
<td>Operational Techniques (No Control Device)</td>
<td>VOC content shall not exceed 7.50%. Total throughput of polystyrene beads shall not exceed 700.0 ton/yr.</td>
</tr>
</tbody>
</table>

Forefront Foam, LLC. and New NGC, Inc. use similar EPS beads, however, this 2016 BACT for New NGC, Inc. was for existing units that had not previously been subject to BACT, not for an entire line at a new source.

In this 2016 BACT analysis, different scenarios were evaluated and cost effectiveness ranged from $17,729 - $19,946. The BACT determination was that add-on control is not economically feasible. The cost effectiveness for the proposed Forefront Foam, LLC. ranges from $11,694 - $36,628 per ton VOC removed, which are comparable. Based on this, requiring an add-on control device is not economically feasible for Forefront Foam, LLC.

<table>
<thead>
<tr>
<th>Facility, Date Issued, Construction</th>
<th>Affected Units/Process Description</th>
<th>Control Method</th>
<th>Limitation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dart Container Corporation of Florida December 20, 2016 Modification of an Existing Source/New Units</td>
<td>EPS Production Line (Pre-Expanders, Blenders, Holding Tanks, and Molding Machines) 21,869.0 ton EPS Bead/yr</td>
<td>Boiler Oxidation Steam System (BOSS) for only Pre-Expansion.</td>
<td>90% VOC capture efficiency for Pre-Expanders. 95% VOC destruction efficiency for Boilers. Total throughput of EPS beads shall not exceed 1,822.40 ton/mon. Total throughput of scrap shall not exceed 145.0 ton/mon and 1,093.4 ton/yr.</td>
</tr>
<tr>
<td>Dart Container Corporation (Dart (MS)) January 31, 2007 Mississippi PSD BACT</td>
<td>EPS Cup Manufacturing Process</td>
<td>Boilers for Pre-Expansion, Blenders, Holding Tanks, Screeners (Cost analysis is not available)</td>
<td>Pentane emissions shall be controlled by a Boiler. 95% VOC destruction efficiency for Boilers. Total VOC emissions shall not exceed 495.0 tons per year.</td>
</tr>
<tr>
<td>Source Description</td>
<td>Process</td>
<td>Emission Control</td>
<td>Emissions Limitations</td>
</tr>
<tr>
<td>--------------------</td>
<td>---------</td>
<td>------------------</td>
<td>----------------------</td>
</tr>
</tbody>
</table>
| Dart Container Corporation (Dart (MI)) | EPS Production of Foam Containers | Steam Boilers (BOSS) for only Pre-Expansion System and Recycle Extruder. (Cost analysis is not available) | Pentane emissions from the Pre-Expansion System shall be controlled by three (3) Steam Boilers.  
30% VOC capture efficiency for Boilers.  
95% VOC destruction efficiency for Boilers.  
Total VOC emissions shall not exceed 75.33 pounds per hour.  
Total VOC emissions shall not exceed 219.95 tons per year. |
| Forefront Foam, LLC. and Dart Container Corporation use similar EPS beads, however, the BACT for these three (3) Dart Container Corporation plants were determined at their initial permitting and the sources were configured and designed to accommodate these boilers in the initial design phase. Due to the differences in the intent of the project (initial or modification), these BACT analyses have been has been eliminated from consideration. |
| Dolco Packaging | EPS Production Line (Curing Room only) 3,750 lb EPS Beads/hr | Regenerative Thermal Oxidizer (RTO) | Total VOC emissions from the Curing Room shall not exceed 2.38 ton/yr.  
The Curing Room shall be controlled by a RTO, with a minimum destruction efficiency of 98%.  
The Capture System for the Curing Room shall have a minimum capture efficiency of 100% |
| Forefront Foam, LLC. and Dolco Packaging use similar EPS beads, however, this BACT analysis was conducted for an existing unit that had not previously been subject to BACT, not for an entire line at a new source.  
In addition, the proposed units in Forefront Foam, LLC.’s application do not include a curing room. Therefore, this BACT has been eliminated from consideration. |
<table>
<thead>
<tr>
<th>Facility, Date Issued, Construction</th>
<th>Affected Units/Process Description</th>
<th>Control Method</th>
<th>Limitation</th>
</tr>
</thead>
</table>
| Genpak, LLC.                        | Polystyrene Foam Extrusion Line    | Regenerative Thermal Oxidizer (RTO) | Butane:  
The butane blowing agent input shall be limited to 677.44 tons per 12 months.  
The combined uncontrolled VOC emissions from each polystyrene foam extrusion operation, including extrusion, roll storage, and thermoforming, shall not exceed 1.70 pounds of VOC per hour.  
The combined uncontrolled VOC emissions from the fluff silos shall not exceed 25.62 pounds of VOC per hour.  
The controlled VOC emissions from the repelletizer shall not exceed 0.64 pounds of VOC per hour.  
The VOC emissions from the polystyrene foam scrap repelletizer shall be controlled by an RTO, which shall have a minimum destruction efficiency of 98% and the capture system shall ensure 100% capture.  
Butane and isopentane simultaneously:  
The controlled VOC emissions shall not exceed 0.64 pounds of VOC per hour.  
The VOC emissions from the polystyrene foam scrap repelletizer shall be controlled by an RTO, which shall have a minimum destruction efficiency of 98% and the capture system shall ensure 100% capture. |
| IN-0219/143-35401-00016 July 6, 2015 Modification to Existing Units | (Roll Storage, Thermoformers, Regrinders, Fluff Silos, and Repelletizer) 4,200 lb EPS/hr, 154.67 lb butane/hr, and 180.97 lb isopentane/hr | | |

Forefront Foam, LLC. and Genpak, LLC use similar EPS beads, however, this 2015 BACT was for existing units to use both butane and isopentane as blowing agents, not for an entire line at a new source.

In addition, another difference is that the proposed units in Forefront Foam, LLC. do not include those units specified in this 2015 BACT for Genpak.

Forefront Foam, LLC. will not use blowing agents in their production. Therefore, this 2015 BACT has been eliminated from consideration.
<table>
<thead>
<tr>
<th>Facility, Date Issued, Construction</th>
<th>Affected Units/Process Description</th>
<th>Control Method</th>
<th>Limitation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Jeld-Wen 113-22426-00047 (issued April 21, 2006) &amp; 113-37982-00047 (issued January 9, 2019) Modification to an Existing Source/New Units and Modification to Existing Units</td>
<td>EPS Block Molding Operation (Pre-Expander System, Block Molding Press, and Conditioning Room) 1,200 lb EPS beads/hr</td>
<td>Regenerative Thermal Oxidizer (RTO)</td>
<td>The VOC emissions collection system and RTO shall achieve an overall VOC control efficiency of 98%. The pentane content in the polystyrene beads used in the expandable polystyrene block molding operation shall not exceed 7.0%. The total potential to emit VOC after control from the expandable polystyrene block molding operation shall not exceed 34 tons per twelve (12) consecutive month period with compliance determined at the end of each month. The total VOC emissions after control from the bead aging room and the block conditioning room shall not exceed 1.43 pounds per hour. The total VOC emissions after control from the pre-expander system and the block molding press shall not exceed 0.89 pounds per hour. The pentane emissions collection system will include two (2) permanent total enclosures that meet the definition in 40 CFR 51, Appendix M, Method 204, each vented to the RTO, to capture VOC emitted from the EPS Block Molding Operation at: - The bead aging bags, and - The block conditioning room. The RTO is not required to be operated only when polystyrene bead is not being actively molded in the EPS Block Molding Operation during the months of November, December, January, February, and March.</td>
</tr>
</tbody>
</table>

Forefront Foam, LLC. and Jeld-Wen use similar EPS beads, however, these 2006 and 2019 BACT were for an existing source that added new units and modification to existing units, respectively, not for an entire line at a new source.

The VOC content (4.50%) of the EPS beads being proposed by Forefront Foam, LLC. is more stringent to the existing VOC content (7.0%) for Jeld-Wen.

In addition, the proposed units in Forefront Foam, LLC.’s will not be used in a similar manner to those units located in Jeld-Wen. Therefore, this BACT has been eliminated from consideration.
<table>
<thead>
<tr>
<th>Facility, Date Issued, Construction</th>
<th>Affected Units/Process Description</th>
<th>Control Method</th>
<th>Limitation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fagerdala – Paclite, Inc. 063-34203-00071 June 12, 2014 &amp; 063-35542-00071 June 8, 2015 Modification to an Existing Source/ New Units and Modifying Existing Units</td>
<td>Polyethylene Sheet Foam Extruder Line (684.0 lb resin/hr and 83.70 lb isobutane/hr)</td>
<td>Regenerative Thermal Oxidizer - Permanent Total Enclosure (RTO-PTE)</td>
<td>Total input of isobutane to the Extruder and Temporary Storage Area (SFE-01) shall not exceed 366.61 tons per per twelve (12) consecutive month period. The polyethylene sheet foam extruder and temporary storage area (SFE-01) shall use a combination of a permanent total enclosure and a regenerative thermal oxidizer to control VOC emissions with an overall control efficiency (including capture efficiency and destruction efficiency) equal to or greater than 98%. The permanent total enclosure and regenerative thermal oxidizer shall operate at all times when the polyethylene sheet foam extruder (SFE-01) is in operation.</td>
</tr>
</tbody>
</table>

Forefront Foam, LLC. uses EPS beads while Fagerdala – Paclite, Inc. use EPE beads for their manufacturing operation. Another difference is that these 2014 and 2015 BACT were for an existing source with a new Extruder Line and modification to the Extruder Line to account for a higher than previously estimated isobutane throughput, respectively, not for an entire line at a new source.

Since Fagerdala – Paclite, Inc. uses a different type of bead and blowing agents, this BACT is eliminated for consideration.

| International Cushioning Co., LLC. 111-40749-00034 April 26, 2019 New Source Construction | Polyethylene Sheet Foam Production Line (Mixer/Dispenser, Extruder, Roller, and Warehouse Area) 1,000 lb resin/hr and 180 lb isobutane/hr | Operational Techniques (no add on control) | The isobutane blowing agent shall not exceed 0.6 lb VOC/lb blowing agent The isobutane blowing agent shall not exceed 415.0 ton/yr |

Forefront Foam, LLC. uses EPS beads while International Cushioning Co., LLC. uses EPE beads for their manufacturing operation. Due to the difference in raw materials, this BACT has been eliminated for comparison.

In addition, this 2019 BACT for International Cushioning Co. are for units that are different than the units proposed by Forefront Foam, LLC. Therefore, this 2019 BACT is eliminated for consideration.
RBLC Review

The majority of the entries in the RBLC for uncontrolled polystyrene production facilities are for modifications to existing lines or units. Those that are new lines or units either include control devices or operational techniques to limit VOC emissions. The sources with control devices use either a BOSS or RTO to control VOC emissions, and the sources with operational techniques primarily use limited throughputs and a restriction on VOC content of the EPS Beads.

(a) Sources with no add controls and cost analysis had been conducted:

The following sources performed cost analysis of add-on controls that were deemed not cost effective, and therefore required no add-on controls for the processes included in the evaluation. The cost effectiveness ranged from $5,975/ton - $21,348/ton of VOC reduced for these evaluations.

(1) EFP, LLC (IN 039-29482-00099), issued on 12/17/2010 - State BACT
(2) New NGC, Inc., dba National Gypsum Company (IN: 165-35908-00081), issued on August 30, 2016. - State BACT
(3) Cellofoam North America, Inc. (IN: 081-39158-00017), issued on May 9, 2018 - State BACT
(4) EFP, LLC (IN Permit: 163-41617-00219), issued on December 23, 2019 - State BACT

Based on the information presented above, it would be not economically feasible to control the VOC emissions from Line 1 at Forefront Foam, LLC. using an add-on control device.

(b) Limited PTE

The unrestricted potential to emit of VOC for Line 1 is 805.78 tons per year, and the limited potential to emit of VOC is 191.25 tons per year, which is a VOC reduction of 614.53 tons per year, or a 76.26% reduction.

The proposed BACT for Line 1 is comparable to sources using control devices and reducing VOC emissions and achieving this without the use of an add-on control device and the associated expenditure for supplemental fuel for the control device, or resulting in collateral cost and emissions.

Step 5: Select BACT

Pursuant to 326 IAC 8-1-6 (BACT), IDEM, OAQ has determined the following BACT requirements for VOC from Line 1 as:

(a) Total VOC emissions from Line 1 shall not exceed 191.25 tons per twelve (12) consecutive month period, with compliance determined at the end of each month.

(b) The average VOC content of EPS Beads used in Line 1 shall not exceed 4.50%.
## Cost Effectiveness Estimate for Regenerative Thermal Oxidizer

### Cost Estimate for the Control of Pre-Expansion & Pre-Puff Storage

**Company Name:** Forefront Foam LLC  
**Address City IN Zip:** 1015 St. Jerome Street Mishawaka, IN 46544  
**Permit No.:** T141-41690-00610  
**Prepared By:** D&B Environmental Services, Inc.

### Cost Estimate

#### Unrestricted PTE

<table>
<thead>
<tr>
<th>Item</th>
<th>Cost Factor</th>
<th>Cost Estimate</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Direct Capital Costs</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Purchased Equipment Costs</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Equipment Cost</td>
<td>Estimated (RTO+auxiliary equipment+building enclosure)</td>
<td>$1,911,363</td>
</tr>
<tr>
<td>Instrumentation</td>
<td>10% Equipment Cost</td>
<td>$191,136</td>
</tr>
<tr>
<td>Sales Tax</td>
<td>7% Equipment Cost</td>
<td>$133,795</td>
</tr>
<tr>
<td>Freight</td>
<td>5% Equipment Cost</td>
<td>$95,568</td>
</tr>
<tr>
<td><strong>Total Purchased Equipment Costs</strong></td>
<td></td>
<td>$2,331,863</td>
</tr>
<tr>
<td>Foundations and Support</td>
<td>8% Purchased Equipment Cost</td>
<td>$186,549</td>
</tr>
<tr>
<td>Handling and Erection</td>
<td>14% Purchased Equipment Cost</td>
<td>$323,461</td>
</tr>
<tr>
<td>Electrical</td>
<td>4% Purchased Equipment Cost</td>
<td>$93,275</td>
</tr>
<tr>
<td>Piping</td>
<td>2% Purchased Equipment Cost</td>
<td>$46,637</td>
</tr>
<tr>
<td>Insulation for Ductwork</td>
<td>1% Purchased Equipment Cost</td>
<td>$23,319</td>
</tr>
<tr>
<td>Ductwork</td>
<td></td>
<td>$52,187</td>
</tr>
<tr>
<td><strong>Total Direct Installation Costs</strong></td>
<td></td>
<td>$751,746</td>
</tr>
<tr>
<td>Engineering</td>
<td>10% Purchased Equipment Cost</td>
<td>$233,186</td>
</tr>
<tr>
<td>Construction and Field Expenses</td>
<td>5% Purchased Equipment Costs</td>
<td>$116,593</td>
</tr>
<tr>
<td>Contractor Fees</td>
<td>10% Purchased Equipment Cost</td>
<td>$233,186</td>
</tr>
<tr>
<td>Start-up</td>
<td>2% Purchased Equipment Cost</td>
<td>$46,637</td>
</tr>
<tr>
<td>Performance Test</td>
<td>1% Purchased Equipment Cost</td>
<td>$23,319</td>
</tr>
<tr>
<td><strong>Total Indirect Costs</strong></td>
<td></td>
<td>$652,922</td>
</tr>
<tr>
<td><strong>Total Contingencies</strong></td>
<td>15% Total Direct Costs and Total Indirect Costs</td>
<td>$560,480</td>
</tr>
<tr>
<td><strong>Total Capital Cost</strong></td>
<td>Total Direct Costs + Total Indirect Costs + Contingencies</td>
<td>$4,297,010</td>
</tr>
</tbody>
</table>

#### Indirect Costs (Installation)

<table>
<thead>
<tr>
<th>Item</th>
<th>Cost Factor</th>
<th>Cost Estimate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Engineering</td>
<td>10% Purchased Equipment Cost</td>
<td>$233,186</td>
</tr>
<tr>
<td>Construction and Field Expenses</td>
<td>5% Purchased Equipment Costs</td>
<td>$116,593</td>
</tr>
<tr>
<td>Contractor Fees</td>
<td>10% Purchased Equipment Cost</td>
<td>$233,186</td>
</tr>
<tr>
<td>Start-up</td>
<td>2% Purchased Equipment Cost</td>
<td>$46,637</td>
</tr>
<tr>
<td>Performance Test</td>
<td>1% Purchased Equipment Cost</td>
<td>$23,319</td>
</tr>
</tbody>
</table>

#### Annual Operating Costs

<table>
<thead>
<tr>
<th>Item</th>
<th>Cost Factor</th>
<th>Cost Estimate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Electricity</td>
<td>Fan Power Consumption * Operating hrs/year * Electricity Price</td>
<td>$302,570</td>
</tr>
<tr>
<td>Natural Gas</td>
<td>Fuel Cost * Fuel Usage Rate (scfm) * 60 min/hr * Operating hrs/yr</td>
<td>$7,815</td>
</tr>
<tr>
<td>Operator Labor</td>
<td>0.5 hr/shift * Labor Rate * Operating hrs/yr / 8 hr/shift</td>
<td>$15,346</td>
</tr>
<tr>
<td>Supervisor Labor</td>
<td>15% Operator Labor</td>
<td>$2,302</td>
</tr>
<tr>
<td>Maintenance Labor</td>
<td>0.5 hr/shift * Labor Rate * Operating hrs/yr / 8 hr/shift</td>
<td>$15,587</td>
</tr>
<tr>
<td>Maintenance Materials</td>
<td>100% Labor</td>
<td>$15,587</td>
</tr>
<tr>
<td><strong>Total Direct Annual Costs</strong></td>
<td></td>
<td>$359,208</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Item</th>
<th>Cost Factor</th>
<th>Cost Estimate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Overhead</td>
<td>60% of sum of Operator, Supervisor, and Maintenance Labor and Maintenance Materials</td>
<td>$29,294</td>
</tr>
<tr>
<td>Administrative Charges</td>
<td>2% Total Capital Cost</td>
<td>$85,940</td>
</tr>
<tr>
<td>Property Taxes</td>
<td>1% Total Capital Cost</td>
<td>$42,970</td>
</tr>
<tr>
<td>Insurance</td>
<td>1% Total Capital Cost</td>
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<tr>
<td>Capital Recovery</td>
<td>Total Capital Cost * Capital Recovery Factor</td>
<td>$729,638</td>
</tr>
<tr>
<td><strong>Total Indirect Annual Costs</strong></td>
<td></td>
<td>$930,813</td>
</tr>
<tr>
<td><strong>Total Annual Operating Cost</strong></td>
<td></td>
<td>$1,290,021</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Item</th>
<th>Cost Estimate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Unlimited PTE</td>
<td>$3,997</td>
</tr>
<tr>
<td>Limited PTE</td>
<td>$16,835</td>
</tr>
</tbody>
</table>

### Methodology:

Cost Effectiveness ($/ton VOC controlled/yr) = Total Annual Cost ($) / (VOC Emissions (tons/yr) x Control Efficiency %)

- Control Efficiency of RTO: 95%
- Capture Efficiency of RTO: 83.4%
- Overall Capture and Control Efficiency: 79.26%
- Capital Recovery Factor = 0.1698
- Interest rate = 11%
- Equipment life (years) = 10

### Notes:


Costs are in 2018 dollars.
Appendix C: BACT Cost Effectiveness for Control Devices

Cost Effectiveness Estimate for Regenerative Thermal Oxidizer
Cost Estimate for the Control of Pre-Expansion Only

Company Name: Forefront Foam LLC
Address City IN Zip: 1015 St. Jerome Street Mishawaka, IN 46544
Permit No.: T141-41690-00610
Prepared By: D&B Environmental Services, Inc.

<table>
<thead>
<tr>
<th>Item</th>
<th>Cost Factor</th>
<th>Cost Estimate Unrestricted PTE</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Direct Capital Costs</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Purchased Equipment Costs</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Equipment Cost</td>
<td>Estimated (RTO+auxiliary equipment+building enclosure)</td>
<td>$ 626,527</td>
</tr>
<tr>
<td>Instrumentation</td>
<td>10% Equipment Cost</td>
<td>$ 62,653</td>
</tr>
<tr>
<td>Sales Tax</td>
<td>7% Equipment Cost</td>
<td>$ 43,857</td>
</tr>
<tr>
<td>Freight</td>
<td>5% Equipment Cost</td>
<td>$ 31,326</td>
</tr>
<tr>
<td><strong>Total Purchased Equipment Costs</strong></td>
<td></td>
<td>$ 764,363</td>
</tr>
<tr>
<td><strong>Direct Installation</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Foundations and Support</td>
<td>8% Purchased Equipment Cost</td>
<td>$ 61,149</td>
</tr>
<tr>
<td>Handling and Erection</td>
<td>14% Purchased Equipment Cost</td>
<td>$ 107,011</td>
</tr>
<tr>
<td>Electrical</td>
<td>4% Purchased Equipment Cost</td>
<td>$ 30,575</td>
</tr>
<tr>
<td>Piping</td>
<td>2% Purchased Equipment Cost</td>
<td>$ 15,287</td>
</tr>
<tr>
<td>Insulation for Ductwork</td>
<td>1% Purchased Equipment Cost</td>
<td>$ 7,644</td>
</tr>
<tr>
<td>Ductwork</td>
<td></td>
<td>$ 52,187</td>
</tr>
<tr>
<td>Painting</td>
<td>1% Purchased Equipment Cost</td>
<td>$ 7,644</td>
</tr>
<tr>
<td><strong>Total Direct Installation Costs</strong></td>
<td></td>
<td>$ 281,496</td>
</tr>
<tr>
<td><strong>Total Direct Costs</strong></td>
<td>Total Purchased Equipment Costs + Total Direct Installation Costs</td>
<td>$ 1,045,859</td>
</tr>
<tr>
<td><strong>Indirect Capital Costs</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Indirect Costs (Installation)</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Engineering</td>
<td>10% Purchased Equipment Cost</td>
<td>$ 76,436</td>
</tr>
<tr>
<td>Construction and Field Expenses</td>
<td>5% Purchased Equipment Costs</td>
<td>$ 38,218</td>
</tr>
<tr>
<td>Contractor Fees</td>
<td>10% Purchased Equipment Costs</td>
<td>$ 76,436</td>
</tr>
<tr>
<td>Start-Up</td>
<td>2% Purchased Equipment Costs</td>
<td>$ 15,287</td>
</tr>
<tr>
<td>Performance Test</td>
<td>1% Purchased Equipment Cost</td>
<td>$ 7,644</td>
</tr>
<tr>
<td><strong>Total Indirect Costs</strong></td>
<td></td>
<td>$ 214,022</td>
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<tr>
<td>Contingencies</td>
<td>15% Total Direct Costs and Total Indirect Costs</td>
<td>$ 188,982</td>
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<tr>
<td><strong>Total Capital Cost</strong></td>
<td>Total Direct Costs + Total Indirect Costs + Contingencies</td>
<td>$ 1,448,863</td>
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<td><strong>Annual Operating Costs</strong></td>
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<td></td>
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<tr>
<td><strong>Direct Annual Costs</strong></td>
<td></td>
<td></td>
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<tr>
<td>Electricity</td>
<td>Fan Power Consumption * Operating hrs/year * Electricity Price</td>
<td>$ 37,677</td>
</tr>
<tr>
<td>Natural Gas</td>
<td>Fuel Cost * Fuel Usage Rate (scfm) * 60 min/hr * Operating hrs/yr</td>
<td>$ 136,866</td>
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<tr>
<td>Operator Labor</td>
<td>0.5 hr/shift * Labor Rate * Operating hrs/yr / 8 hr/shift</td>
<td>$ 15,346</td>
</tr>
<tr>
<td>Supervisor Labor</td>
<td>15% Operator Labor</td>
<td>$ 2,302</td>
</tr>
<tr>
<td>Maintenance Labor</td>
<td>0.5 hr/shift * Labor Rate * Operating hrs/yr / 8 hr/shift</td>
<td>$ 15,587</td>
</tr>
<tr>
<td>Maintenance Materials</td>
<td>100% Labor</td>
<td>$ 15,587</td>
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<td><strong>Total Direct Annual Costs</strong></td>
<td></td>
<td>$ 223,366</td>
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<tr>
<td>Overhead</td>
<td>60% of sum of Operator, Supervisor, and Maintenance Labor and Maintenance Materials</td>
<td>$ 29,294</td>
</tr>
<tr>
<td>Administrative Charges</td>
<td>2% Total Capital Cost</td>
<td>$ 27,384</td>
</tr>
<tr>
<td>Property Taxes</td>
<td>1% Total Capital Cost</td>
<td>$ 13,692</td>
</tr>
<tr>
<td>Insurance</td>
<td>1% Total Capital Cost</td>
<td>$ 13,692</td>
</tr>
<tr>
<td>Capital Recovery</td>
<td>Total Capital Cost * Capital Recovery Factor</td>
<td>$ 232,488</td>
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<tr>
<td><strong>Total Indirect Annual Costs</strong></td>
<td></td>
<td>$ 316,550</td>
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<td><strong>Total Annual Operating Cost</strong></td>
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<td>$ 539,916</td>
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<table>
<thead>
<tr>
<th>VOC Emissions (tons/yr)</th>
<th>VOC Emissions After Controls (tons/yr)</th>
<th>VOC Destroyed (tons/yr)</th>
<th>Cost Effectiveness ($/ton)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Unlimited PTE</td>
<td>227.44</td>
<td>32.98</td>
<td>194.46</td>
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<tr>
<td>Limited PTE</td>
<td>54.00</td>
<td>7.83</td>
<td>48.17</td>
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</table>

Methodology:
Cost Effectiveness ($/ton VOC controlled/yr) = Total Annual Cost ($) / (VOC Emissions (tons/yr) x Control Efficiency %)

Control Efficiency of RTO: 95%
Capture Efficiency of RTO: 99%
Overall Capture and Control Efficiency: 85.5%
Capital Recovery Factor = 0.1698
Interest rate = 11%
Equipment life (years) = 10

Notes:
Costs are in 2018 dollars.
## Cost Estimate for the Control of Pre-Puff Only

**Company Name:** Forefront Foam LLC  
**Address City IN Zip:** 1015 St. Jerome Street Mishawaka, IN 46544  
**Permit No.:** T141-41690-00610  
**Prepared By:** D&B Environmental Services, Inc.

### Equipment Cost
- **Cost Estimate:** $1,403,302

<table>
<thead>
<tr>
<th>Item</th>
<th>Cost Factor</th>
<th>Unrestricted PTE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Equipment Cost</td>
<td>Estimated (RTO+auxiliary equipment+building enclosure)</td>
<td>$1,403,302</td>
</tr>
<tr>
<td>Instrumentation</td>
<td>10% Equipment Cost</td>
<td>$140,330</td>
</tr>
<tr>
<td>Sales Tax</td>
<td>7% Equipment Cost</td>
<td>$98,231</td>
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<tr>
<td>Freight</td>
<td>5% Equipment Cost</td>
<td>$70,165</td>
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<tr>
<td><strong>Total Purchased Equipment Costs</strong></td>
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<td>$1,712,028</td>
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</tbody>
</table>

### Direct Installation Costs
- **Cost Estimate:** $1,712,028

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<th>Item</th>
<th>Cost Factor</th>
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</tr>
</thead>
<tbody>
<tr>
<td>Foundations and Support</td>
<td>8% Purchased Equipment Cost</td>
<td>$136,962</td>
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<tr>
<td>Handling and Erection</td>
<td>14% Purchased Equipment Cost</td>
<td>$239,684</td>
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<tr>
<td>Electrical</td>
<td>4% Purchased Equipment Cost</td>
<td>$68,461</td>
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<tr>
<td>Piping</td>
<td>2% Purchased Equipment Cost</td>
<td>$34,241</td>
</tr>
<tr>
<td>Insulation for Ductwork</td>
<td>1% Purchased Equipment Cost</td>
<td>$17,120</td>
</tr>
<tr>
<td>Ductwork</td>
<td>52,187</td>
<td></td>
</tr>
<tr>
<td>Painting</td>
<td>1% Purchased Equipment Cost</td>
<td>$17,120</td>
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<tr>
<td><strong>Total Direct Installation Costs</strong></td>
<td></td>
<td>$565,796</td>
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### Indirect Costs
- **Cost Estimate:** $2,777,824

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<th>Item</th>
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<tbody>
<tr>
<td>Engineering</td>
<td>10% Purchased Equipment Cost</td>
<td>$171,203</td>
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<tr>
<td>Construction and Field Expenses</td>
<td>5% Purchased Equipment Costs</td>
<td>$85,601</td>
</tr>
<tr>
<td>Contractor Fees</td>
<td>10% Purchased Equipment Cost</td>
<td>$171,203</td>
</tr>
<tr>
<td>Start-up</td>
<td>2% Purchased Equipment Costs</td>
<td>$34,241</td>
</tr>
<tr>
<td>Performance Test</td>
<td>1% Purchased Equipment Costs</td>
<td>$17,120</td>
</tr>
<tr>
<td><strong>Total Indirect Costs</strong></td>
<td></td>
<td>$479,368</td>
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<tr>
<td>Contingencies</td>
<td>15% Total Direct Costs and Total Indirect Costs</td>
<td>$413,379</td>
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</table>

### Total Capital Cost
- **Cost Estimate:** $3,170,771

### Annual Operating Costs
- **Cost Estimate:** $1,115,661

<table>
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<tr>
<th>Item</th>
<th>Cost Factor</th>
<th>Unrestricted PTE</th>
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</thead>
<tbody>
<tr>
<td>Electricity</td>
<td>$200,043</td>
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<tr>
<td>Natural Gas</td>
<td>$209,714</td>
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<tr>
<td>Operator Labor</td>
<td>$15,346</td>
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<tr>
<td>Supervior Labor</td>
<td>$2,302</td>
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<tr>
<td>Maintenance Labor</td>
<td>$15,587</td>
<td></td>
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<tr>
<td>Maintenance Materials</td>
<td>$15,587</td>
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<tr>
<td><strong>Total Direct Annual Costs</strong></td>
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<td>$458,561</td>
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<tr>
<td>Overhead</td>
<td>$29,294</td>
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<td>Administrative Charges</td>
<td>$59,846</td>
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<tr>
<td>Property Taxes</td>
<td>$29,923</td>
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<tr>
<td>Insurance</td>
<td>$29,923</td>
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</tr>
<tr>
<td>Capital Recovery</td>
<td>$506,094</td>
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</tr>
<tr>
<td><strong>Total Indirect Annual Costs</strong></td>
<td></td>
<td>$657,080</td>
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</table>

### Total Annual Operating Cost
- **Cost Estimate:** $1,772,751

<table>
<thead>
<tr>
<th>VOC Emissions (tons/year)</th>
<th>VOC Emissions After Controls (tons/year)</th>
<th>VOC Destroyed (tons/year)</th>
<th>Cost Effectiveness ($/ton)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Unlimited PTE</td>
<td>180.05</td>
<td>51.76</td>
<td>128.29</td>
</tr>
<tr>
<td>Limited PTE</td>
<td>42.75</td>
<td>12.29</td>
<td>30.46</td>
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</table>

### Methodology:
- Cost Effectiveness ($/ton VOC controlled/yr) = Total Annual Cost ($) / (VOC Emissions (tons/yr) x Control Efficiency %)
- Control Efficiency of RTO = 95%
- Overall Capture and Control Efficiency = 71.25%
- Capital Recovery Factor = 0.1698
- Interest rate = 11%
- Equipment life (years) = 10

### Notes:
- Costs are in 2018 dollars.
December 27, 2019

Mr. Ryan Van Dyke
Forefront Foam, LLC
1015 St. Jerome Street
Mishawaka, Indiana  46544

Re:  Public Notice
Forefront Foam, LLC
Permit Level:  Title V NSC (Minor PSD)
Permit Number: 141-41690-00610

Dear Mr. Van Dyke:

Enclosed is a copy of your draft Title V New Source Construction (Minor PSD), 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 Mishawaka Public Library, 209 Lincoln Way East in Mishawaka, Indiana. 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 Ms. Andrea M. Smith, 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 4-8839 or dial (317) 234-8839.

Sincerely,

John F. Jackson

John F. Jackson
Permits Branch
Office of Air Quality

Enclosures
PN Applicant Cover Letter 4/12/19
December 27, 2019

To: Mishawaka 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: Forefront Foam, LLC
Permit Number: 141-41690-00610

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.
Notice of Public Comment

December 27, 2019
Forefront Foam, LLC
141-41690-00610

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.
AFFECTED STATE NOTIFICATION OF PUBLIC COMMENT PERIOD
DRAFT INDIANA AIR PERMIT

December 27, 2019

A 30-day public comment period has been initiated for:

Permit Number: 141-41690-00610
Applicant Name: Forefront Foam, LLC
Location: Mishawaka, St. Joseph County, Indiana

The public notice, draft permit and technical support documents can be accessed via the IDEM Air Permits Online site at:
http://www.in.gov/ai/appfiles/idem-caats/

Questions or comments on this draft permit should be directed to the person identified in the public notice by telephone or in writing to:

Indiana Department of Environmental Management
Office of Air Quality, Permits Branch
100 North Senate Avenue
Indianapolis, IN 46204

Questions or comments regarding this email notification or access to this information from the EPA Internet site can be directed to Chris Hammack at chammack@idem.IN.gov or (317) 233-2414.
**Mail Code 61-53**

<table>
<thead>
<tr>
<th>IDEM Staff</th>
<th>JJACKSON 12/27/2019</th>
<th>Forefront Foam LLC 141-41690-00610 (DRAFT)</th>
<th>Type of Mail:</th>
<th>CERTIFICATE OF MAILING ONLY</th>
<th>AFFIX STAMP HERE IF USED AS CERTIFICATE OF MAILING</th>
</tr>
</thead>
<tbody>
<tr>
<td>Name and address of Sender</td>
<td>Indiana Department of Environmental Management</td>
<td>Office of Air Quality – Permits Branch 100 N. Senate Indianapolis, IN 46204</td>
<td></td>
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<td></td>
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<table>
<thead>
<tr>
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<th>Article Number</th>
<th>Name, Address, Street and Post Office Address</th>
<th>Postage</th>
<th>Handing Charges</th>
<th>Act. Value (If Registered)</th>
<th>Insured Value</th>
<th>Due Send if COD</th>
<th>R.R. Fee</th>
<th>S.D. Fee</th>
<th>S.H. Fee</th>
<th>Rest. Del. Fee</th>
<th>Remarks</th>
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<tbody>
<tr>
<td>1</td>
<td></td>
<td>Ryan Van Dyke Forefront Foam LLC 1015 St Jerome St Mishawaka IN 46544 (Source CAATS)</td>
<td></td>
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<tr>
<td>2</td>
<td></td>
<td>Mishawaka City Council and Mayors Office 600 E. 3rd Street Mishawaka City Hall Mishawaka IN 46546 (Local Official)</td>
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<td>3</td>
<td></td>
<td>Mishawaka Penn Public Library 209 Lincoln Way E Mishawaka IN 46544-2084 (Library)</td>
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<tr>
<td>4</td>
<td></td>
<td>Mr. Wayne Faida South Bend Tribune 255 W Colfax Ave South Bend IN 46626 (Affected Party)</td>
<td></td>
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<tr>
<td>5</td>
<td></td>
<td>St. Joseph County Board of Commissioners 227 West Jefferson Blvd, South Bend IN 46601 (Local Official)</td>
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<td>6</td>
<td></td>
<td>Mark Espich St. Joseph County Health Department 227 W Jefferson Blvd South Bend IN 46601 (Health Department)</td>
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<td>7</td>
<td></td>
<td>Alex Easterday D &amp; B Environmental Services, Inc. 401 Lincoln Way West Osceola IN 46561 (Consultant)</td>
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<td>8</td>
<td></td>
<td>Jeff Mayes News-Dispatch 422 Franklin St Michigan City IN 46360 (Affected Party)</td>
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<tr>
<td>9</td>
<td></td>
<td>Mr. Roger Schneider The Goshen News 114 S. Main St Goshen IN 46526 (Affected Party)</td>
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<tr>
<td>10</td>
<td></td>
<td>Sharpe Floor Covering 919 St. Jerome St Mishawaka IN 46544 (Affected Party)</td>
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<td>11</td>
<td></td>
<td>Warehouse Salvage 58438 Filbert Rd Mishawaka IN 46544 (Affected Party)</td>
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<tr>
<td>12</td>
<td></td>
<td>Hy Tech Automotive Repair, Inc. 1002 St. Jerome St Mishawaka IN 46544 (Affected Party)</td>
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</tbody>
</table>

The full declaration of value is required on all domestic and international registered mail. The maximum indemnity payable for the reconstruction of nonnegotiable documents under Express Mail document reconstructing insurance is $50,000 per piece subject to a limit of $50,000 per occurrence. The maximum indemnity payable on Express mail merchandise insurance is $500. The maximum indemnity payable is $25,000 for registered mail, sent with optional postal insurance. See **Domestic Mail Manual R900, S913, and S921** for limitations of coverage on insured and COD mail. See **International Mail Manual** for limitations of coverage on international mail. Special handling charges apply only to Standard Mail (A) and Standard Mail (B) parcels.