

Mr. Edward W. Rider, Jr.
Genpak, LLC
845 South Elm Street
Scottsburg, Indiana, 47170

Re: **SSM 143-11382-00016**
Significant Source Modification to
Part 70 No.: T143-11375-00016

Dear Mr. Rider:

Genpak, LLC's application for a Part 70 permit (T143-11375-00016) for the existing stationary source extruding and forming polystyrene foam products was received on September 24, 1999 and is currently being reviewed by IDEM. A letter requesting changes to this permit was received on September 28, 1999. Pursuant to the provisions of 326 IAC 2-7-12 a significant source modification to this permit is hereby approved as described in the attached Technical Support Document.

The modification consists of the construction of the following emission units and pollution control devices related to a Foam Cup Line:

- (a) Mold machines, identified as M-1, extruding a maximum of 833 pounds per hour of resin injected with pentane, and exhausting to the interior of the building, and
- (b) Pre-Expansion Room, identified as the Pre-Expansion Room, extruding a maximum of 833 pounds per hour of resin injected with pentane, utilizing a boiler to control VOC emissions, exhausting to S-1, and consisting of:
 - (1) Material Preparation,
 - (2) Pre-Expander, identified as PE-1,
 - (3) Pre-Puff, identified as PP-1, and
 - (4) One (1) natural gas fired boiler with a rated heat input of 20.9 mmBtu per hour.
- (c) Vessels storing lubricating oils, hydraulic oils, machining oils, and machining fluids,
- (d) Solvent recycling systems with batch capacity less than or equal to 100 gallons,
- (e) Forced and induced draft cooling tower systems not regulated under a NESHAP,
- (f) replacement or repair of electrostatic precipitators, bags in baghouses and filters in other air filtration equipment,
- (g) Paved and unpaved roads and parking lots with public access,
- (h) Blowdown for any of the following: sight glass; boiler; compressors; pumps; and cooling tower,
- (i) On-site fire and emergency response training approved by the department, and
- (j) Stationary fire pumps.

All other conditions of the permit shall remain unchanged and in effect. Please attach a copy of this modification and the following revised permit pages to the front of the original permit.

Operation of the new equipment incorporated into the Part 70 operating permit by this amendment may commence operation upon issuance of this approval. This decision is subject to the Indiana Administrative Orders and Procedures Act - IC 4-21.5-3-5. If you have any questions on this matter please contact Phillip Ritz, at 973-575-2555 (ext. 3241) or 1-800-451-6027 press 0 and ask for extension 3-6878.

Sincerely,

Paul Dubenetzky, Chief
Permits Branch
Office of Air Management

Attachments
PR/EVP

cc: File - Scott County
U.S. EPA, Region V
Scott County Health Department
Air Compliance Section Inspector Joe Foyst
Compliance Data Section - Karen Nowak
Administrative and Development - Janet Mobley
Technical Support and Modeling - Michelle Boner

PART 70 SIGNIFICANT SOURCE MODIFICATION OFFICE OF AIR MANAGEMENT

**Genpak, LLC
845 South Elm Street
Scottsburg, Indiana, 47170**

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

This approval 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.

Source Modification No.: SSM143-11382-00016	
Issued by: Paul Dubenetzky, Branch Chief Office of Air Management	Issuance Date:

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Part 70 Quarterly Report

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SECTION A SOURCE SUMMARY

This approval is based on information requested by the Indiana Department of Environmental Management (IDEM), Office of Air Management (OAM). The information describing the emission units contained in conditions A.1 through A.2 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 approval 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(15)]

The Permittee owns and operates a stationary source extruding and forming polystyrene foam products.

Responsible Official: Edward W. Rider, Jr.
Source Address: 845 South Elm Street, Scottsburg, Indiana, 47170
Mailing Address: 845 South Elm Street, Scottsburg, Indiana, 47170
Phone Number: 812-752-3111
SIC Code: 3089
County Location: Scott
County Status: Attainment for all criteria pollutants
Source Status: Part 70 Permit Program
Minor Source, under PSD Rules;

A.2 Emission Units and Pollution Control Equipment Summary [326 IAC 2-7-4(c)(3)] [326 IAC 2-7-5(15)]

This stationary source is approved to construct and operate the following emission units and pollution control devices:

- (a) Mold machines, identified as M-1, molding a maximum of 833 pounds per hour of resin injected with pentane, and exhausting to the interior of the building, and
- (b) Pre-Expansion Room, identified as the Pre-Expansion Room, expanding a maximum of 833 pounds per hour of resin injected with pentane, utilizing a boiler to control VOC emissions, exhausting to S-1, and consisting of:
 - (1) Material Preparation,
 - (2) Pre-Expander, identified as PE-1,
 - (3) Pre-Puff, identified as PP-1, and
 - (4) One (1) natural gas fired boiler with a rated heat input of 20.9 mmBtu per hour.
- (c) Vessels storing lubricating oils, hydraulic oils, machining oils, and machining fluids,
- (d) Solvent recycling systems with batch capacity less than or equal to 100 gallons,
- (e) Forced and induced draft cooling tower systems not regulated under a NESHAP,
- (f) replacement or repair of electrostatic precipitators, bags in baghouses and filters in other air filtration equipment,
- (g) Paved and unpaved roads and parking lots with public access,
- (h) Blowdown for any of the following: sight glass; boiler; compressors; pumps; and cooling tower,
- (i) On-site fire and emergency response training approved by the department, and
- (j) Stationary fire pumps.

A.3 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:

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

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SECTION B GENERAL CONSTRUCTION CONDITIONS

B.1 Permit No Defense [IC 13]

This approval to construct does not relieve the Permittee of the responsibility to comply with the provisions of the Indiana Environmental Management Law (IC 13-11 through 13-20; 13-22 through 13-25; and 13-30), the Air Pollution Control Law (IC 13-17) and the rules promulgated thereunder, as well as other applicable local, state, and federal requirements.

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

Terms in this approval shall have the definition assigned to such terms in the referenced regulation. In the absence of definitions in the referenced regulation, any applicable definitions found in IC 13-11, 326 IAC 1-2 and 326 IAC 2-7 shall prevail.

B.3 Effective Date of the Permit [IC13-15-5-3]

Pursuant to IC 13-15-5-3, this approval becomes effective upon its issuance.

B.4 Revocation of Permits [326 IAC 2-1.1-9(5)][326 IAC 2-7-10.5(i)]

Pursuant to 326 IAC 2-1.1-9(5)(Revocation of Permits), the Commissioner may revoke this approval 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.5 Significant Source Modification [326 IAC 2-7-10.5(h)]

This document shall also become the approval to operate pursuant to 326 IAC 2-7-10.5(h) when, prior to start of operation, the following requirements are met:

- (a) The attached affidavit of construction shall be submitted to the Office of Air Management (OAM), Permit Administration & Development Section, verifying that the emission units were constructed as proposed in the application. The emissions units covered in the Significant Source Modification approval 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 emissions units differs from the construction proposed in the application, the source may not begin operation until the source modification has been revised pursuant to 326 IAC 2-7-11 or 326 IAC 2-7-12 and an Operation Permit Validation Letter is issued.
- (c) If construction is completed in phases; i.e., the entire construction is not done continuously, a separate affidavit must be submitted for each phase of construction. Any permit conditions associated with operation start up dates such as stack testing for New Source Performance Standards (NSPS) shall be applicable to each individual phase.
- (d) The Permittee shall receive an Operation Permit Validation Letter from the Chief of the Permit Administration & Development Section and attach it to this document.

However, in the event that the Title V application is being processed at the same time as this application, the following additional procedures shall be followed for obtaining the right to operate:

- (1) If the Title V draft permit has not gone on public notice, then the change/addition covered by the Significant Source Modification will be included in the Title V draft.

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- (2) If the Title V permit has gone thru final EPA proposal and would be issued ahead of the Significant Source Modification, the Significant Source Modification will go thru a concurrent 45 day EPA review. Then the Significant Source Modification will be incorporated into the final Title V permit at the time of issuance.
- (3) If the Title V permit has not gone thru final EPA review and would be issued after the Significant Source Modification is issued, then the Modification would be added to the proposed Title V permit, and the Title V permit will issued after EPA review.

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SECTION C GENERAL OPERATION CONDITIONS

C.1 Certification [326 IAC 2-7-4(f)][326 IAC 2-7-6(1)][326 IAC 2-7-5(3)(C)]

- (a) Where specifically designated by this approval or required by an applicable requirement, any application form, report, or compliance certification submitted under this approval shall contain certification by a responsible official of truth, accuracy, and completeness. This certification, shall state that, based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate, and complete.
- (b) One (1) certification shall be included, on the attached Certification Form, with each submittal.
- (c) A responsible official is defined at 326 IAC 2-7-1(34).

C.2 Preventive Maintenance Plan [326 IAC 2-7-5(1),(3) and (13)] [326 IAC 2-7-6(1) and (6)] [326 IAC 1-6-3]

- (a) If required by specific condition(s) in Section D of this approval, the Permittee shall prepare and maintain Preventive Maintenance Plans (PMP) within ninety (90) days after issuance of this approval, 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;
 - (3) Identification and quantification of the replacement parts that will be maintained in inventory for quick replacement.

If due to circumstances beyond its control, the PMP 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 Branch, Office of Air Management
100 North Senate Avenue, P. O. Box 6015
Indianapolis, Indiana 46206-6015

- (b) The Permittee shall implement the Preventive Maintenance Plans as necessary to ensure that failure to implement the Preventive Maintenance Plan does not cause or contribute to a violation of any limitation on emissions or potential to emit.
- (c) PMP's shall be submitted to IDEM, OAM, upon request and shall be subject to review and approval by IDEM, OAM. IDEM, OAM, may require the Permittee to revise its Preventive Maintenance Plan whenever lack of proper maintenance causes or contributes to any violation.

C.3 Permit Amendment or Modification [326 IAC 2-7-11] [326 IAC 2-7-12]

- (a) The Permittee must comply with the requirements of 326 IAC 2-7-11 or 326 IAC 2-7-12 whenever the Permittee seeks to amend or modify this approval.

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

Indiana Department of Environmental Management
Permits Branch, Office of Air Management
100 North Senate Avenue, P.O. Box 6015
Indianapolis, Indiana 46206-6015

Any such application should be certified by the "responsible official" as defined by 326 IAC 2-7-1(34) only if a certification is required by the terms of the applicable rule

- (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)]

C.4 Opacity [326 IAC 5-1]

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

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

C.5 Operation of Equipment [326 IAC 2-7-6(6)]

Except as otherwise provided in this approval, all air pollution control equipment listed in this approval and used to comply with an applicable requirement shall be operated at all times that the emission unit vented to the control equipment is in operation.

Testing Requirements [326 IAC 2-7-6(1)]

C.6 Performance Testing [326 IAC 3-6][326 IAC 2-1.1-11]

- (a) Compliance testing on new emission units shall be conducted within 60 days after achieving maximum production rate, but no later than 180 days after initial start-up, if specified in Section D of this approval. All testing shall be performed according to the provisions of 326 IAC 3-6 (Source Sampling Procedures), except as provided elsewhere in this approval, utilizing any applicable procedures and analysis methods specified in 40 CFR 51, 40 CFR 60, 40 CFR 61, 40 CFR 63, 40 CFR 75, or other procedures approved by IDEM, OAM.

A test protocol, except as provided elsewhere in this approval, shall be submitted to:

Indiana Department of Environmental Management
Compliance Data Section, Office of Air Management
100 North Senate Avenue, P. O. Box 6015
Indianapolis, Indiana 46206-6015

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no later than thirty-five (35) days prior to the intended test date. The Permittee shall submit a notice of the actual test date to the above address so that it is received at least two weeks prior to the test date.

- (b) All test reports must be received by IDEM, OAM within forty-five (45) days after the completion of the testing. An extension may be granted by the IDEM, OAM, if the source submits to IDEM, OAM, a reasonable written explanation within five (5) days prior to the end of the initial forty-five (45) day period.

The documentation submitted by the Permittee does not require certification by the "responsible official" as defined by 326 IAC 2-7-1(34).

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

C.7 Compliance Monitoring [326 IAC 2-7-5(3)] [326 IAC 2-7-6(1)]

Compliance with applicable requirements shall be documented as required by this approval. All monitoring and record keeping requirements not already legally required shall be implemented within ninety (90) days of approval issuance. The Permittee shall be responsible for installing any necessary equipment and initiating any required monitoring related to that equipment. If due to circumstances beyond its control, that equipment cannot be installed and operated within ninety (90) days, 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 Branch, Office of Air Management
100 North Senate Avenue, P. O. Box 6015
Indianapolis, Indiana 46206-6015

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 the certification by the "responsible official" as defined by 326 IAC 2-7-1(34).

C.8 Temperature Gauge Specifications

Whenever a condition in this permit requires the measurement of temperature of any part of the unit or its control device, the gauge employed shall have a scale such that the expected normal reading shall be no less than twenty percent (20%) of full scale and be accurate within plus or minus two percent ($\pm 2\%$) of full scale reading.

Corrective Actions and Response Steps [326 IAC 2-7-5] [326 IAC 2-7-6]

C.9 Compliance Monitoring Plan - Failure to Take Response Steps [326 IAC 2-7-5][326 IAC 2-7-6] [326 IAC 1-6]

(a) The Permittee is required to implement a compliance monitoring plan to ensure that reasonable information is available to evaluate its continuous compliance with applicable requirements. This compliance monitoring plan is comprised of:

- (1) This condition;
- (2) The Compliance Determination Requirements in Section D of this approval;

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- (3) The Compliance Monitoring Requirements in Section D of this approval;
 - (4) The Record Keeping and Reporting Requirements in Section C (Monitoring Data Availability, General Record Keeping Requirements, and General Reporting Requirements) and in Section D of this approval; and
 - (5) A Compliance Response Plan (CRP) for each compliance monitoring condition of this approval. CRP's shall be submitted to IDEM, OAM upon request and shall be subject to review and approval by IDEM, OAM. The CRP shall be prepared within ninety (90) days after issuance of this approval by the Permittee and maintained on site, and is comprised of :
 - (A) Response steps that will be implemented in the event that compliance related information indicates that a response step is needed pursuant to the requirements of Section D of this approval; and
 - (B) A time schedule for taking such response steps including a schedule for devising additional response steps for situations that may not have been predicted.
- (b) For each compliance monitoring condition of this approval, appropriate response steps shall be taken when indicated by the provisions of that compliance monitoring condition. Failure to perform the actions detailed in the compliance monitoring conditions or failure to take the response steps within the time prescribed in the Compliance Response Plan, shall constitute a violation of the approval unless taking the response steps set forth in the Compliance Response Plan would be unreasonable.
- (c) After investigating the reason for the excursion, the Permittee is excused from taking further response steps for any of the following reasons:
- (1) The monitoring equipment malfunctioned, giving a false reading. This shall be an excuse from taking further response steps providing that prompt action was taken to correct the monitoring equipment.
 - (2) The Permittee has determined that the compliance monitoring parameters established in the approval conditions are technically inappropriate, has previously submitted a request for an administrative amendment to the approval, and such request has not been denied or;
 - (3) An automatic measurement was taken when the process was not operating; or
 - (4) The process has already returned to operating within "normal" parameters and no response steps are required.
- (d) Records shall be kept of all instances in which the compliance related information was not met and of all response steps taken. In the event of an emergency, the provisions of 326 IAC 2-7-16 (Emergency Provisions) requiring prompt corrective action to mitigate emissions shall prevail.

C.10 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 -

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Performance Testing, of this approval exceed the level specified in any condition of this approval, the Permittee shall take appropriate corrective actions. The Permittee shall submit a description of these corrective actions to IDEM, OAM, within thirty (30) days of receipt of the test results. The Permittee shall take appropriate action to minimize emissions from the affected facility while the corrective actions are being implemented. IDEM, OAM shall notify the Permittee within thirty (30) days, if the corrective actions taken are deficient. The Permittee shall submit a description of additional corrective actions taken to IDEM, OAM within thirty (30) days of receipt of the notice of deficiency. IDEM, OAM reserves the authority to use enforcement activities to resolve noncompliant stack tests.

- (b) A retest to demonstrate compliance shall be performed within one hundred twenty (120) days of receipt of the original test results. Should the Permittee demonstrate to IDEM, OAM that retesting in one-hundred and twenty (120) days is not practicable, IDEM, OAM may extend the retesting deadline. Failure of the second test to demonstrate compliance with the appropriate approval conditions may be grounds for immediate revocation of the approval to operate the affected facility.

The documents submitted pursuant to this condition do not require the certification by the "responsible official" as defined by 326 IAC 2-7-1(34).

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

C.11 Monitoring Data Availability [326 IAC 2-7-6(1)] [326 IAC 2-7-5(3)]

- (a) With the exception of performance tests conducted in accordance with Section C-Performance Testing, all observations, sampling, maintenance procedures, and record keeping, required as a condition of this approval shall be performed at all times the equipment is operating at normal representative conditions.
- (b) As an alternative to the observations, sampling, maintenance procedures, and record keeping of subsection (a) above, when the equipment listed in Section D of this approval is not operating, the Permittee shall either record the fact that the equipment is shut down or perform the observations, sampling, maintenance procedures, and record keeping that would otherwise be required by this approval.
- (c) If the equipment is operating but abnormal conditions prevail, additional observations and sampling should be taken with a record made of the nature of the abnormality.
- (d) If for reasons beyond its control, the operator fails to make required observations, sampling, maintenance procedures, or record keeping, reasons for this must be recorded.
- (e) At its discretion, IDEM may excuse such failure providing adequate justification is documented and such failures do not exceed five percent (5%) of the operating time in any quarter.
- (f) Temporary, unscheduled unavailability of staff qualified to perform the required observations, sampling, maintenance procedures, or record keeping shall be considered a valid reason for failure to perform the requirements stated in (a) above.

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C.12 General Record Keeping Requirements [326 IAC 2-7-5(3)][326 IAC 2-7-6]

- (a) Records of all required monitoring data and support information shall be retained for a period of at least five (5) years from the date of monitoring sample, measurement, report, or application. These records shall be kept at the source location for a minimum of three (3) years and available upon the request of an IDEM, OAM, representative. 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 written request for records to the Permittee, the Permittee shall furnish the records to the Commissioner within a reasonable time.
- (b) Records of required monitoring information shall include, where applicable:
- (1) The date, place, and time of sampling or measurements;
 - (2) The dates analyses were performed;
 - (3) The company or entity performing the analyses;
 - (4) The analytic techniques or methods used;
 - (5) The results of such analyses; and
 - (6) The operating conditions existing at the time of sampling or measurement.
- (c) Support information shall include, where applicable:
- (1) Copies of all reports required by this approval;
 - (2) All original strip chart recordings for continuous monitoring instrumentation;
 - (3) All calibration and maintenance records;
 - (4) Records of preventive maintenance shall be sufficient to demonstrate that failure to implement the Preventive Maintenance Plan did not cause or contribute to a violation of any limitation on emissions or potential to emit. To be relied upon subsequent to any such violation, these records may include, but are not limited to: work orders, parts inventories, and operator's standard operating procedures. Records of response steps taken shall indicate whether the response steps were performed in accordance with the Compliance Response Plan required by Section C - Compliance Monitoring Plan - Failure to take Response Steps, of this approval, and whether a deviation from an approval condition was reported. All records shall briefly describe what maintenance and response steps were taken and indicate who performed the tasks.
- (d) All record keeping requirements not already legally required shall be implemented within ninety (90) days of approval issuance.

C.13 General Reporting Requirements [326 IAC 2-7-5(3)(C)]

- (a) The reports required by conditions in Section D of this approval shall be submitted to:

Permit Reviewer: PR/EVP

Indiana Department of Environmental Management
Compliance Data Section, Office of Air Management
100 North Senate Avenue, P. O. Box 6015
Indianapolis, Indiana 46206-6015

- (b) Unless otherwise specified in this approval, any notice, report, or other submission required by this approval 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, OAM, on or before the date it is due.
- (c) Unless otherwise specified in this approval, any quarterly report shall be submitted within thirty (30) days of the end of the reporting period. The report does not require the certification by the "responsible official" as defined by 326 IAC 2-7-1(34).
- (d) The first report shall cover the period commencing on the date of issuance of this approval and ending on the last day of the reporting period.

Permit Reviewer: PR/EVP

SECTION D.1 FACILITY OPERATION CONDITIONS

Facility Description [326 IAC 2-7-5(15)]:

- (a) Mold machines, identified as M-1, molding a maximum of 833 pounds per hour of resin injected with pentane, and exhausting to the interior of the building, and
- (b) Pre-Expansion Room, identified as the Pre-Expansion Room, expanding a maximum of 833 pounds per hour of resin injected with pentane, utilizing a boiler to control VOC emissions, exhausting to S-1, and consisting of:
 - (1) Material Preparation,
 - (2) Pre-Expander, identified as PE-1,
 - (3) Pre-Puff, identified as PP-1, and
 - (4) One (1) natural gas fired boiler with a rated heat input of 20.9 mmBtu per hour.

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

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

D.1.1 Volatile Organic Compounds (VOC) [326 IAC 8-1-6]

That pursuant to 326 IAC 8-1-6, the boiler on the Pre-Expansion Room shall be in operation at all times that the Pre-Expansion Room is in operation. When operating, the boiler on the Pre-Expansion Room shall maintain minimum operating temperatures of 1,400° F, or a temperature determined in the compliance tests (described in Condition D.1.4) to maintain at least 90.25% overall control efficiency (including capture and destruction efficiency). The source shall meet the following:

- (1) That the usage of the blowing agent, delivered to the Foam Cup Line, shall be limited to 15.17 tons per month. This will limit the potential to emit VOC to 5.36 tons per month. During the first 12 months of operation, the usage of the blowing agent shall be limited such that the total amount of blowing agent used divided by the accumulated months of operation shall not exceed the limits specified.
- (2) The boiler controlling VOC emissions from the Pre-Expansion Room shall be in operation at all times that the Pre-Expansion Room is in operation;
- (3) no add-on controls for the Mold Machines, identified as M-1.

Operation at or above this minimum temperature ensures compliance with the BACT requirements of 326 IAC 8-1-6. Compliance with this limit makes 326 IAC 2-2 (Prevention of Significant Deterioration) and 40 CFR 52.21 not applicable.

D.1.2 Particulate Emissions Limitations for Sources of Indirect Heating

Pursuant to 326 IAC 6-2 (Particulate Emissions Limitations for Sources of Indirect Heating), the PM emissions from the Foam Cup Line natural gas fired boiler has the following conditions:

- (a) Pursuant to 326 IAC 6-2-2, the PM emissions from the Foam Cup Line natural gas fired boiler, rated at 20.9 mmBtu per hour, shall be limited to 0.49 pounds per MMBtu heat input.

This limitation is based on the following equation:

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$$Pt = 0.87 / Q^{0.16}$$

where Pt is PM pounds per MMBTU and Q is the source MMBtu per hour heat input.

D.1.3 Preventive Maintenance Plan [326 IAC 2-7-5(13)]

A Preventive Maintenance Plan, in accordance with Section B - Preventive Maintenance Plan, of this permit, is required for this facility and any control devices.

Compliance Determination Requirements

D.1.4 Testing Requirements [326 IAC 2-7-6(1),(6)][326 IAC 2-1.1-11]

To demonstrate compliance with the minimum 90.25% overall control efficiency (including capture and destruction efficiency) required by condition D.1.1, during the period between 3 and 6 months after issuance of Significant Source Modification No. 143-11382-00016, the Permittee shall perform VOC testing utilizing Method 25 or other methods as approved by the Commissioner, to determine an operating temperature that will achieve 90.25% overall control efficiency (including capture and destruction efficiency) for this boiler. In addition to these requirements, IDEM may require compliance testing when necessary to determine if the facility is in compliance.

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

D.1.5 Monitoring

- (a) The natural gas fired boiler for VOC control shall be in operation at all times when the Pre-Expansion Room is in operation and exhausting to the outside atmosphere. When operating, the boiler shall maintain a minimum operating temperature of 1,400° F or a temperature determined in the compliance tests to maintain a minimum 90.25% overall control efficiency (including capture and destruction efficiency) of the volatile organic compound (VOC).
- (b) Additional inspections and preventive measures shall be performed as prescribed in the Preventive Maintenance Plan.

D.1.6 Fuel Type and Usage

Pursuant to 326 IAC 12, NSPS (40 CFR 60 Subpart Dc - Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units), the monthly amount and type of each fuel burned on the one (1) Foam Cup Line natural gas fired boiler shall be measured.

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

D.1.7 Record Keeping Requirements

To document compliance with Condition D.1.1, the Permittee shall maintain records in accordance with (1) through (5) below. Records maintained for (1) through (5) shall be taken monthly and shall be complete and sufficient to establish compliance with the usage of the blowing agent limits and/or the VOC emission limits established in Condition D.1.1.

- (1) The amount and VOC content of each material used. Records shall include purchase orders, invoices, and material safety data sheets (MSDS) necessary to verify the type and amount used;
- (2) A log of the dates of use;

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- (3) The total usage of the blowing agent for each month; and
 - (4) The weight of VOCs emitted for each compliance period.
 - (5) Records of the boiler combustion zone temperature shall be maintained.
- (b) To document compliance with Condition D.1.6, the Permittee shall maintain records of monthly amount and type of fuel burned.
 - (c) All records shall be maintained in accordance with Section C - General Record Keeping Requirements, of this permit.

D.1.8 Reporting Requirements

A quarterly summary of the information to document compliance with Condition D.1.1 shall be submitted to the address listed in Section C - General Reporting Requirements, of this permit, using the reporting forms located at the end of this permit, or their equivalent, within thirty (30) days after the end of the quarter being reported.

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**INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF AIR MANAGEMENT
COMPLIANCE DATA SECTION**

**PART 70 SOURCE MODIFICATION
CERTIFICATION**

Source Name: Genpak, LLC
Source Address: 845 South Elm Street, Scottsburg, Indiana, 47170
Mailing Address: 845 South Elm Street, Scottsburg, Indiana, 47170
Source Modification No.: 143-11382-00016

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

Please check what document is being certified:

- 9 Test Result (specify) _____
- 9 Report (specify) _____
- 9 Notification (specify) _____
- 9 Other (specify) _____

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

Signature:

Printed Name:

Title/Position:

Date:

Permit Reviewer: PR/EVP

**INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF AIR MANAGEMENT
COMPLIANCE DATA SECTION**

**PART 70 OPERATING PERMIT
NATURAL GAS FIRED BOILER CERTIFICATION**

Source Name: Genpak, LLC
Source Address: 845 South Elm Street, Scottsburg, Indiana, 47170
Mailing Address: 845 South Elm Street, Scottsburg, Indiana, 47170
Source Modification No.: 143-11382-00016

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

Report period

Beginning: _____

Ending: _____

Boiler Affected

Alternate Fuel

Days burning alternate fuel

From

To

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

Signature:

Printed Name:

Title/Position:

Date:

Permit Reviewer: PR/EVP

**INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
 OFFICE OF AIR MANAGEMENT
 COMPLIANCE DATA SECTION**

Part 70 Quarterly Report

Source Name: Genpak, LLC
 Source Address: 845 South Elm Street, Scottsburg, Indiana, 47170
 Mailing Address: 845 South Elm Street, Scottsburg, Indiana, 47170
 Source Modification No.: 143-11382-00016
 Facility: Foam Cup Line
 Parameter: Volatile Organic Compounds (VOC)
 Limit: That the usage of the blowing agent, delivered to the Foam Cup Line, shall be limited to 15.17 tons per month. This will limit the potential to emit VOC to 5.36 tons per month. During the first 12 months of operation, the usage of the blowing agent shall be limited such that the total amount of blowing agent used divided by the accumulated months of operation shall not exceed the limits specified.

YEAR: _____

Month	Column 1	Column 2	Column 1 + Column 2
	Usage of the Blowing Agent This Month	Usage of the Blowing Agent Previous 11 Months	Usage of the Blowing Agent 12 Month Total
Month 1			
Month 2			
Month 3			

- 9 No deviation occurred in this quarter.
- 9 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 Management

Technical Support Document (TSD) for a Part 70 Significant Source Modification

Source Background and Description

Source Name:	Genpak, LLC
Source Location:	845 South Elm Street, Scottsburg, Indiana, 47170
County:	Scott
SIC Code:	3089
Operation Permit No.:	T143-11375-00016
Operation Permit Application Date:	September 24, 1999
Source Modification No.:	SSM143-11382-00016
Permit Reviewer:	Phillip Ritz/EVP

The Office of Air Management (OAM) has reviewed a modification application from Genpak, LLC relating to the construction of the following emission units and pollution control devices related to the operation of a Foam Cup Line:

- (a) Mold machines, identified as M-1, extruding a maximum of 833 pounds per hour of resin injected with pentane, and exhausting to the interior of the building, and
- (b) Pre-Expansion Room, identified as the Pre-Expansion Room, extruding a maximum of 833 pounds per hour of resin injected with pentane, utilizing a boiler to control VOC emissions, exhausting to S-1, and consisting of:
 - (1) Material Preparation,
 - (2) Pre-Expander, identified as PE-1,
 - (3) Pre-Puff, identified as PP-1, and
 - (4) One (1) natural gas fired boiler with a rated heat input of 20.9 mmBtu per hour.
- (c) Vessels storing lubricating oils, hydraulic oils, machining oils, and machining fluids,
- (d) Solvent recycling systems with batch capacity less than or equal to 100 gallons,
- (e) Forced and induced draft cooling tower systems not regulated under a NESHAP,
- (f) replacement or repair of electrostatic precipitators, bags in baghouses and filters in other air filtration equipment,
- (g) Paved and unpaved roads and parking lots with public access,
- (h) Blowdown for any of the following: sight glass; boiler; compressors; pumps; and cooling tower,
- (i) On-site fire and emergency response training approved by the department, and
- (j) Stationary fire pumps.

History

On September 28, 1999, Genpak, LLC submitted an application to the OAM requesting to add a Foam Cup Line to their existing plant. Genpak, LLC's application for a Part 70 permit (T143-11375-00016) for the existing stationary source extruding and forming polystyrene foam products was received on September 24, 1999 and is currently being reviewed by IDEM.

Enforcement Issue

There are no enforcement actions pending.

Stack Summary

Stack ID	Operation	Height (feet)	Diameter (feet)	Flow Rate (acfm)	Temperature (°F)
S-1	Foam Cup Line	TBD	TBD	TBD	1,400-2,000

Recommendation

The staff recommends to the Commissioner that the Part 70 Significant Source Modification be approved. This recommendation is based on the following facts and conditions:

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 September 28, 1999.

Emission Calculations

The calculations submitted by the applicant have been verified and found to be accurate and correct. These calculations are provided in Appendix A of this document (Appendix A, pages 1 through 4)

Potential To Emit of Modification

Pursuant to 326 IAC 2-1.1-1(16), 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.”

This table reflects the PTE before controls. Control equipment is not considered federally enforceable until it has been required in a federally enforceable permit.

Pollutant	Potential To Emit (tons/year)
PM	0.00
PM-10	0.00
SO ₂	0.00
VOC	154.70
CO	0.00
NO _x	0.00

Justification for Modification

The Part 70 Operating permit is being modified through a Part 70 Significant Source Modification. This modification is being performed pursuant to 326 IAC, 2-7-10.5(g)(4)(d), as it has a potential to emit greater than, or equal to, 25 tons per year of volatile organic compounds.

County Attainment Status

The source is located in Scott County.

Pollutant	Status
PM-10	attainment
SO ₂	attainment
NO ₂	attainment
Ozone	attainment
CO	attainment
Lead	attainment

- (a) Volatile organic compounds (VOC) and oxides of nitrogen (NO_x) are precursors for the formation of ozone. Therefore, VOC and NO_x emissions are considered when evaluating the rule applicability relating to the ozone standards. Scott County has been designated as attainment or unclassifiable for ozone. Therefore, VOC and NO_x emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2 and 40 CFR 52.21.
- (b) Scott County has been classified as attainment or unclassifiable for all other criteria pollutants. Therefore, these emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2 and 40 CFR 52.21.

Source Status

Existing Source PSD or Emission Offset Definition (emissions after controls, based upon 8760 hours of operation per year at rated capacity and/or as otherwise limited):

Pollutant	Emissions (tons/year)
PM	7.01
PM-10	7.01
SO ₂	0.00
VOC	92.35
CO	0.37
NO _x	0.44

- (a) This existing source is not a major stationary source because no attainment regulated pollutant is emitted at a rate of 250 tons per year or more, and it is not one of the 28 listed source categories.
- (b) These emissions are based upon the existing Source Status of construction permit CP-143-9851-00016.

Potential to Emit of Modification After Issuance

The table below summarizes the potential to emit, reflecting all limits, of the significant emission units after controls. The control equipment is considered federally enforceable only after issuance of this Part 70 source modification.

Process/facility	Potential to Emit (tons/year)						
	PM	PM-10	SO ₂	VOC	CO	NO _x	HAPs
Mold Machines, identified as M-1	0.00	0.00	0.00	56.40	0.00	0.00	0.00
Pre-Expansion Room, identified as the Pre-Expansion Room	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Boiler	0.17	0.70	0.05	0.50	7.69	9.15	0.17
Totals	0.00	0.00	0.00	56.40	0.00	0.00	0.00
PSD Significant Level	250	250	250	250	250	250	NA

This modification to an existing minor stationary source is not major because the emission increase is less than the PSD significant levels. Therefore, pursuant to 326 IAC 2-2, and 40 CFR 52.21, the PSD requirements do not apply.

Federal Rule Applicability

- (a) The Foam Cup Line natural gas fired boiler is subject to the New Source Performance Standard, 326 IAC 12, (40 CFR 60 Subpart Dc - Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units). This boiler only burns natural gas, therefore pursuant to the requirements of Subpart Dc, record keeping of fuel type and amount of fuel used is required.
- (b) There are no other New Source Performance Standards (NSPS)(326 IAC 12 and 40 CFR Part 60) applicable to this proposed modification.
- (c) There are no National Emission Standards for Hazardous Air Pollutants (NESHAP), 40 CFR Part 63, applicable to this facility.

State Rule Applicability - Individual Facilities

326 IAC 2-2 (Prevention of Significant Deterioration)

This source is not subject to the requirements of 326 IAC 2-2 (Prevention of Significant Deterioration) because the potential emissions of any pollutant are less than two hundred fifty (250) tons per year and it is not one of the 28 listed source categories for this rule.

326 IAC 2-6 (Emission Reporting)

This source is subject to the requirements of 326 IAC 2-6 (Emission Reporting), because the source has the potential to emit more than 100 tons per year of VOC. Pursuant to this rule, the owner/operator of this source must annually submit an emission statement of the source. The annual statement must be received by July 1 of each year and must contain the minimum requirements as specified in 326 IAC 2-6-4.

326 IAC 5-1 (Visible Emissions Limitations)

Pursuant to 326 IAC 5-1-2 (Visible Emissions Limitations), except as provided in 326 IAC 5-1-3 (Temporary Exemptions), visible emissions shall meet the following, unless otherwise stated in this permit:

- (a) Visible emissions shall not exceed an average of forty percent (40%) opacity in twenty-four (24) consecutive readings as determined by 326 IAC 5-1-4,
- (b) Visible emissions shall not exceed sixty percent (60%) opacity for more than a cumulative total of fifteen (15) minutes (sixty (60) readings) in a six (6) hour period.

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

The natural gas fired boiler on the Pre-Expansion Room, rated at 20.9 million British thermal units per hour, is subject to the particulate matter limitations of 326 IAC 6-2. Pursuant to this rule, the natural gas fired boiler on the Pre-Expansion Room is limited by the following equation from 326 IAC 6-2-4:

$$Pt = 1.09/Q^{0.26}$$

where: Pt = maximum allowable particulate matter (PM) emitted per MMBtu heat input
Q = total source max. indirect heater input = natural gas fired boiler on the Pre-Expansion Room = 20.9 MMBtu/hr

$$Pt = 1.09/20.9^{0.26} = 0.50 \text{ lbs PM/MMBtu}$$

Therefore, the Foam Cup Line natural gas fired boiler is limited to 0.49 lbs PM/MMBtu.

compliance calculation:

$$(0.17 \text{ tons PM/yr}) * (\text{hr}/20.9 \text{ MMBtu}) * (\text{yr}/8,760 \text{ hrs}) * (2,000 \text{ lbs/ton}) = 0.002 \text{ lbs PM/MMBtu}$$

Actual lbs PM/MMBtu (0.002) are less than allowable lbs PM/MMBtu (0.49), therefore the natural gas fired boiler on the Pre-Expansion Room will comply with the requirements of 326 IAC 6-4.

326 IAC 6-3-2 (Process Operations)

326 IAC 6-3-2 (Process Operations) does not apply as there are no particulate matter emissions from this modification, except the boiler on the Pre-Expansion Room, which is regulated by 326 IAC 6-2-4.

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

The Foam Cup Line is subject to the provisions of 326 IAC 8-1-6 (New Facilities: General Reduction Requirements) because the potential volatile organic compound (VOC) emissions are greater than twenty-five tons per year and it was constructed after the January 1, 1980 applicability date.

The BACT analysis for VOC was performed by the applicant and was conducted in accordance with the "Top Down BACT Guidance" U.S. EPA, Office of Air Quality Planning and Standards, March 15, 1990. The BACT analysis includes control technologies found in the U.S. EPA RACT/BACT/LAER Clearinghouse database and State Regulatory Agencies. The major pollutant specified was VOCs and similar sources were identified as "polystyrene foam production." Table A below summarizes the search.

(A)

Company/Location	Facility Description	Control Requirements
Falcon Manufacturing of Michigan Byron Center, MI	EPS Block Manufacturing	Expander routed to direct flame incinerator.
Styrotek, Inc. Delano, CA	Expandable Polystyrene Molding Operation	Thermal Oxidation in Boiler
Tuscarora Plastics, Inc. Saginaw, MI	Expandable Polystyrene Bead Processing	BACT is low VOC content beads and 2-pass through Pre-Expansion
Western Insulfoam Phoenix, AZ	Foam panel manufacturing, polystyrene bead expansion, bead storage, pre-expansion, and molding machines.	Bead storage, pre-expanders, and molding machines are routed to boiler.
FormPac Division, W.R. Grace & Co. Indianapolis, IN	Foam Panel Manufacturing	BACT is Recuperative Thermal Oxidizer on Reclaim
Knauf USA Polystyrene, Inc. Lebanon, OH	Polystyrene Foam Production Process	BACT is Regenerative Thermal Oxidizer
Pactuco Santa Barbara, CA	Polystyrene Extrusion Process	Recuperative Thermal oxidizer, Pentane Ventilation Collection System

The operations at the above-mentioned facilities were compared to the Genpak Foam Cup Line process. It was determined that the operations at Formpac, Knauf USA Polystyrene, Inc., and Pactuco are not closely related to those at Genpak. Therefore, the control requirements for these facilities will not be used in the BACT assessment for Genpak.

The BACT requirements for Tuscarora Plastics, Inc., is low VOC content beads. The beads used by Tuscarora contain 4.5 pounds VOC per 100 pounds of EPS beads.

Of the remaining facilities listed above, requirements for add-on control equipment have included:

- (1) Thermal Oxidation,
- (2) Direct Flame Incineration, and
- (3) Natural Gas Fired Boiler.

The resin which will be used in the new Foam Cup Line has a Pentane concentration of 5.2%, such that the VOC content is 5.2 lbs per 100 lbs of resin. As discussed in the previous section of this assessment, BACT for a similar facility, Tuscarora Plastics, Inc., is low VOC content beads. The VOC content of these beads is 4.5 lbs per 100 lbs of beads. Since a regulatory threshold has not been established to designate a "low VOC content", the VOC content of the resin used at Genpak has been compared with the low VOC content beads used at Tuscarora. Genpak has selected the lowest VOC content that will allow manufacturing to maintain product quality. The difference between the VOC content of these beads is minor and therefore, Genpak can be considered to be using a low VOC content material also.

In addition to the review of material substitution, the technical feasibility of available VOC control technologies has been examined. Two scenarios were evaluated in determining control technology options. The first scenario is control of only the Pre-Expander Room and the second scenario is to include the Pre-Expander Room and the Mold Machines.

The second scenario was found to be technically infeasible. The Mold Machines cannot be enclosed because the VOC concentrations would increase to levels which would pose potential health and safety risks. Due to the nature of the foam cup manufacturing process, operators would continually work in the capture room where the machines are located. The elevated VOC concentrations would present a significant risk to the health of those employees. More importantly, the increased VOC concentrations could cause a flammable or explosive environment. Pentane (the VOC to be controlled) is a highly flammable substance. If an ignition source is introduced into the Mold Machine area, a fire or explosion could easily occur. For these reasons, controlling the Mold Machines is technically infeasible and is not included in the evaluation of add-on control technologies. As Table 1 indicates, none of the current similar operations are required to control the Mold Machines area.

The results of the add-on control technology evaluation for controlling the Pre-Expansion Room are summarized in the following table:

Technical Feasibility Evaluation

Control Technology	Control Efficiency	Required VOC inlet concentration	Other Considerations	Technical Feasibility
Boiler	95%	--	NA	high
Recuperative Thermal Oxidizer	94-98%	1,000-10,000 ppm <50% LEL	NA	high
Regenerative Thermal Oxidizer	94-98%	1,000-10,000 ppm <50% LEL	Plastic particulates can settle on the beds and cause fires, lower heat transfer and lower removal efficiency.	Low/moderate
Recuperative Catalytic Incinerator	92-98%	100-1,000 ppm <25% LEL	Plastic particulates can settle on catalyst and cause fires and lower removal efficiency.	Low/moderate
Regenerative Catalytic Incinerator	92-98%	100-1,000 ppm <25% LEL	Plastic particulates can settle on catalyst and beds and cause fires, lower heat transfer and lower removal efficiency.	Low/moderate
Flare	98%	>13,000 ppm 100% UEL	Concentration requirement is high. It is difficult to sustain the flame.	low
Carbon Adsorption	94-95%	10-10,000 ppm	Plastic particulates can settle in chamber and cause fires and lower removal efficiency. Fire or explosion hazard in carbon chamber.	low
Carbon Adsorption-Oxidation	80-95%	10-10,000 ppm	Plastic particulates can settle in chamber and cause fires and lower removal efficiency. Fire or explosion hazard in carbon chamber.	low

The only control technologies ranked as highly technically feasible are the boiler and the recuperative thermal oxidizer. Options (3) through (6) have been determined to have a low to moderate technical feasibility, and additional explanations for the feasibility ranking of the low and moderate technologies are provided below:

A concern exists regarding damage to the control equipment in the cases of regenerative thermal oxidation, recuperative or regenerative catalytic incineration, and carbon adsorption. Although a fabric filter would be present on the vent before emissions are routed to the control device, plastic particulates can still plug the gravel or ceramic beds of a regenerative technology, accumulate on catalysts in the catalytic technologies or accumulate on the carbon materials in an adsorptive technology. This damage, which can include fires, lower heat transfer, or lower removal efficiencies, could occur if the fabric filter fails in whole or in part. A vendor who is very familiar with Genpak's production process expressed this as a major concern. These factors are also stated as concerns in Control of Gaseous Emissions Second edition, North Carolina University, 1995.

In the case of a flare technology the VOC concentration required was substantially higher than the concentrations in the production emissions and sustaining a flare would be extremely difficult.

Two environmental concerns related to trade-offs in the environmental benefits in certain control technologies discussed above are as follows:

- (a) In the case of those technologies which require supplemental fuel, although VOCs are being destroyed, nitrogen oxides will be created and emitted during fuel consumption.
- (b) If carbon adsorption is used, a solid waste will be created when the carbon material is spent. In certain cases, this waste material may be a hazardous waste.

The tables B through D below show the results of the cost analysis.

(B)

Capital Cost

Option	Base Price	Direct Cost	Indirect Cost	Total
Emissions to Boiler-controlling Pre-Expansion Room	\$693,204.00	\$260,000.00	\$166,299.00	\$1,119,502.00

(C)

Annual Operating, Maintenance & Recovery Cost

Option	Direct Cost	Indirect Cost	Capital Recovery Cost	Total
Emissions to Boiler-controlling Pre-Expansion Room	\$99,440.00	\$81,611.00	\$295,322.00	\$476,373.00

(1) Total Cost includes Direct, Indirect, and Capital Recovery Costs.

(D)

Evaluation

Option	Potential Emissions (tons/yr)	Emissions Removed (tons/yr)*	Control Efficiency (%)	\$/ton Removed
Emissions to Boiler-controlling Pre-Expansion Room	154.70	90.34	64.71%	\$5,273.00

Methodology:

Emissions removed = (potential emissions from repelletizer) * (control efficiency)

\$/ton removed = total annual cost / emissions removed

A cost analysis prepared for using a boiler to control the Pre-Expansion Room shows that the cost per ton of VOC destroyed is \$5,273. This cost can be considered economically feasible.

The cost breakdown is as follows:

1. Capital Cost
 - (a) Base price: purchase price, auxiliary equipment, instruments, controls, taxes and freight.
 - (b) Direct installation cost: foundations/supports, erection/handling, electrical, piping, insulation, painting, site preparation and building/facility.
 - (c) Indirect installation cost: engineering, supervision, construction/filed expenses, construction fee, start up, performance test, model study and contingencies.
2. Annual Cost
 - (a) Direct operating cost: operating labor (operator, supervisor), labor and material maintenance, operating materials, utilities (electricity, gas).
 - (b) Indirect operating cost: overhead, property tax, insurance, administration and capital recovery cost (for 10 years life of the system at 10% interest rate).

The Genpak facility currently uses a recuperative thermal oxidizer to control exhaust from the repelletizer for polystyrene extrusion and CPET lines. A control scenario was considered in which the exhaust from the Pre-Expansion Room would be collected and routed to the thermal oxidizer, located in a separate building. Since the oxidizer is already installed and is in use at the facility the only costs incurred from using it to control Pre-Expansion Room emissions would be those costs associated with piping and ductwork. Therefore, this option is also economically feasible.

- (a) Boiler - this option is both economically and technically feasible. Additional benefits gained from the use of the boiler are as follows:
 - (1) The boiler is operated at a temperature of 2,000EF and Pentane is destroyed at 1,400EF. This will ensure that the control efficiency will be 95%.
 - (2) The energy used for the VOC destruction will serve a dual purpose since it will also be used for steam injection in the foam cup manufacturing processes.
- (b) Recuperative Thermal Oxidizer- This control technology is both economically and technically feasible. However, the control efficiency is not as high for an oxidizer as it would be for the boiler. Additionally, the oxidizer does not have a fuel recycling capability similar to that of the boiler.

Genpak's economic analysis of system operation shows a cost of \$5,273 per ton VOC removed by controlling the pre-expansion room by venting emissions to a boiler. Therefore, BACT for the Foam Cup Line has been determined to be VOC emission control by a boiler controlling 90.34 tons of VOC exhaust from the Pre-Expansion Room for the Foam Cup Line, by capturing and destroying 90.34 tons per year of VOC from the Pre-Expansion Room. The Foam Cup Line shall use less than 15.17 tons of VOC [Total VOC (as Pentane) in Raw Material = 7,000,000 lbs/yr Maximum Throughput * 5.2% Pentane in Raw Material] per 12 consecutive month period.

Compliance Requirements

Permits issued under 326 IAC 2-7 are required to ensure that sources can demonstrate compliance with applicable state and federal rules on a more or less continuous basis. All state and federal rules contain compliance provisions, however, these provisions do not always fulfill the requirement for a more or less continuous demonstration. When this occurs IDEM, OAM, in conjunction with the source, must develop specific conditions to satisfy 326 IAC 2-7-5. As a result, compliance requirements are divided into two sections: Compliance Determination Requirements and Compliance Monitoring Requirements.

Compliance Determination Requirements in Section D of the permit are those conditions that are found more or less directly within state and federal rules and the violation of which serves as grounds for enforcement action. If these conditions are not sufficient to demonstrate continuous compliance, they will be supplemented with Compliance Monitoring Requirements, also 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.

The compliance monitoring requirements applicable to this source are as follows:

- (1) The Pre-Expansion Room for the Foam Cup Line has applicable compliance monitoring conditions as specified below:
 - (a) The natural gas fired boiler for VOC control shall be in operation at all times when the Pre-Expansion Room is in operation and exhausting to the outside atmosphere. When operating, the boiler shall maintain a minimum operating temperature of 1,400° F or a temperature determined in the compliance tests to maintain a minimum 90.25% overall control efficiency (including capture and destruction efficiency) of the volatile organic compound (VOC).
 - (b) Additional inspections and preventive measures shall be performed as prescribed in the Preventive Maintenance Plan.

These monitoring conditions are necessary because the boiler for the Pre-Expansion Room must operate properly to ensure compliance with 326 IAC 8-1-6 and 326 IAC 2-7 (Part 70).

Conclusion

The construction of this proposed modification shall be subject to the conditions of the attached proposed Part 70 Significant Source Modification No. 143-11382-00016.

Indiana Department of Environmental Management Office of Air Management

Addendum to the Part 70 Significant Source Modification

Source Name: Genpak, LLC
 Source Location: 845 South Elm Street, Scottsburg, Indiana, 47170
 County: Scott
 Construction Permit No.: SSM 143-11382-00016
 SIC Code: 3089
 Permit Reviewer: Phillip Ritz/EVP

On December 11, 1999, the Office of Air Management (OAM) had a notice published in the Scott County Journal, Scottsburg, Indiana, stating that Genpak, LLC had applied for a Part 70 Significant Source Modification to construct and operate emission units and pollution control devices related to the operation of a Foam Cup Line. The notice also stated that OAM proposed to issue a Part 70 Significant Source Modification for this installation and provided information on how the public could review the proposed Part 70 Significant Source Modification and other documentation. Finally, the notice informed interested parties that there was a period of thirty (30) days to provide comments on whether or not this permit should be issued as proposed.

On January 11, 2000, Erin Surinak of Keramida Environmental submitted comments on behalf of Genpak, LLC, on the proposed Part 70 Significant Source Modification. The summary of the comments and corresponding responses is as follows:

Comment 1

Sections A.2, Emission Units and Pollution Control Equipment Summary and D.1, Facility Description
 The mold machines and pre-expansion room are described as follows in the permit:

- (a) Mold machines, identified as M-1, extruding a maximum of 833 pounds per hour of resin injected with pentane, and exhausting to the interior of the building, and
- (b) Pre-Expansion Room, identified as the Pre-Expansion Room, extruding a maximum of 833 pounds per hour of resin injected with pentane, utilizing a boiler to control VOC emissions, exhausting to S-1, and consisting of:

These operations are described incorrectly and should be changed as follows (bolded language should be added, language with a line through it should be deleted):

- (a) Mold machines, identified as M-1, ~~extruding~~ **molding** a maximum of 833 pounds per hour of resin injected with pentane, and exhausting to the interior of the building, and Pre-Expansion Room, identified as the Pre-Expansion Room, ~~extruding~~ **expanding** a maximum of 833 pounds per hour of resin injected with pentane, utilizing a boiler to control VOC emissions, exhausting to S-1, and consisting of:

Likewise, the facility descriptions found in the Technical Support Document (TSD) should be modified.

Response 1

The descriptions of the mold machines and pre-expansion room have been clarified to state that the mold machines conduct molding, not extrusion, operations. The pre-expansion room expands, and does not extrudes, resin. Section A.2 and D.1 of the permit has been revised as follows:

Permit Reviewer: PR/EVP

- (a) Mold machines, identified as M-1, ~~extruding~~ **molding** a maximum of 833 pounds per hour of resin injected with pentane, and exhausting to the interior of the building, and
- (b) Pre-Expansion Room, identified as the Pre-Expansion Room, ~~extruding~~ **expanding** a maximum of 833 pounds per hour of resin injected with pentane, utilizing a boiler to control VOC emissions, exhausting to S-1, and consisting of:

Page 1 of 11 of the TSD has been revised as follows:

The OAM prefers that the Technical Support Document reflect the permit that was on public notice. Changes to the permit or technical support material that occur after the public notice are documented in this Addendum to the Technical Support Document. This accomplishes the desired result of ensuring that these types of concerns are documented and part of the record regarding this permit decision.

- (a) Mold machines, identified as M-1, ~~extruding~~ **molding** a maximum of 833 pounds per hour of resin injected with pentane, and exhausting to the interior of the building, and
- (b) Pre-Expansion Room, identified as the Pre-Expansion Room, ~~extruding~~ **expanding** a maximum of 833 pounds per hour of resin injected with pentane, utilizing a boiler to control VOC emissions, exhausting to S-1, and consisting of:

Comment 2

Section D.1.1 (1), Volatile Organic Compounds states the following:

- (1) That input of VOC, minus the VOC solvent shipped out, delivered to the Foam Cup Line shall be limited to 15.17 tons per month. This is equivalent to VOC emissions of 4.70 tons per month. During the first 12 months of operation, VOC usage shall be limited such that the total VOC used divided by accumulated months of operation shall not exceed the limits specified.

We believe the emission limit of 4.7 tons/month is incorrect and should be changed to 5.36 tons/month. As shown in the potential emission calculation spreadsheet available for public comment, the VOC emissions from the mold machines and Pre-Expansion Room are 54.6 tons/year and 9.76 tons/year, respectively. Therefore, the total VOC emissions are 64.36 tons/year or 5.36 tons/month. Likewise, the Potential to Emit table found on page 4 of the TSD should be modified to reflect these changes.

Additionally, the phrase "minus the VOC solvent shipped out" should be eliminated from this condition. The facility uses resin in this process, not a solvent. A percentage of the pentane from the resin is retained in the final product. However, the total input of VOC, including, not "minus", the pentane retained in the product is limited to 15.17 tons/month. Therefore, we request that this condition be changed as follows (bolded language should be added, language with a line through it should be deleted):

- (1) That input of VOC, ~~minus the VOC solvent shipped out~~, delivered to the Foam Cup Line shall be limited to 15.17 tons per month. This is equivalent to VOC emissions of ~~4.70~~ **5.36** tons per month. During the first 12 months of operation, VOC usage shall be limited such that the total VOC used divided by accumulated months of operation shall not exceed the limits specified.

Permit Reviewer: PR/EVP

Response 2

The 4.70 tons per month limit is based upon 100% capture and control efficiencies. However, as the emission calculations in Appendix A of the TSD and the permit testing requirements state, the boiler can only achieve a 95% collection and 95% control efficiency level (90.25% overall control efficiency). The emission calculation in Appendix A state that VOC emissions after control are 5.36 tons per month. To clarify that the blowing agent (i.e. pentane) is being limited, the term "blowing agent" has been used in place of "VOC". The phrase "minus VOC shipped out" has been removed from the condition. Therefore, the permit has been revised to state the correct VOC emissions from the foam cup line after control.

- (1) That ~~input of VOC~~ **the usage of the blowing agent, minus the VOC solvent shipped out**, delivered to the Foam Cup Line, shall be limited to 15.17 tons per month. This is ~~equivalent to~~ **will limit the potential to emit VOC to VOC emissions of 4.70 5.36** tons per month. During the first 12 months of operation, ~~VOC usage~~ **the usage of the blowing agent** shall be limited such that the total ~~VOC amount of blowing agent~~ used divided by ~~the~~ accumulated months of operation shall not exceed the limits specified.

Condition D.1.7(a) lists 5, not 6, requirements for compliance with Condition D.1.1. Condition D.1.7 has been revised as follows:

- (a) To document compliance with Condition D.1.1, the Permittee shall maintain records in accordance with (1) through ~~(6 5)~~ below. Records maintained for (1) through ~~(6 5)~~ shall be taken monthly and shall be complete and sufficient to establish compliance with the ~~VOC usage~~ **usage of the blowing agent** limits and/or the VOC emission limits established in Condition D.1.1.
 - (1) The amount and VOC content of each material used. Records shall include purchase orders, invoices, and material safety data sheets (MSDS) necessary to verify the type and amount used;
 - (2) A log of the dates of use;
 - (3) The total ~~VOC usage~~ **usage of the blowing agent** for each month; and
 - (4) The weight of VOCs emitted for each compliance period.
 - (5) Records of the boiler combustion zone temperature shall be maintained.

The Part 70 Quarterly Report has also been revised to state that the blowing agent (i.e. pentane) is being limited, the term "blowing agent" has been used in place of "VOC":

Limit: That ~~input of VOC~~ **the usage of the blowing agent, minus the VOC solvent shipped out**, delivered to the Foam Cup Line, shall be limited to 15.17 tons per month. This is ~~equivalent to~~ **will limit the potential to emit VOC to VOC emissions of 4.70 5.36** tons per month. During the first 12 months of operation, ~~VOC usage~~ **the usage of the blowing agent** shall be limited such that the total ~~VOC amount of blowing agent~~ used divided by ~~the~~ accumulated months of operation shall not exceed the limits specified.

Permit Reviewer: PR/EVP

Comment 3

Sections A.2, Emission Units and Pollution Control Equipment Summary and D.1, Facility Description
This description lists the mold machines and pre-expansion room along with the insignificant activities. We believe that the insignificant activities should be listed in a separate section. The permit, as currently written, lists the insignificant activities in Section D.1 but the emission limitations and reporting and recordkeeping requirements pertain only to the mold machines and pre-expansion room. Therefore, we request that the insignificant activities be listed as such in Section A.2 and in a separate D section, other than Section D.1.

Response 3

The insignificant activities have no applicable requirements in Section D.1. Therefore, the mention of the insignificant activities has been removed from the emission unit description in Section D.1.

Comment 4

The Stack Summary found on page 2 of the Technical Support Document gives a stack temperature range of 1,400 – 2,000 degrees F. We request that this be changed to “TBD”. The temperature range listed is that of the operating temperature for the boiler. The actual stack temperature is not known as this time.

Response 4

The stack summary on page 2 of 11 of the TSD has been revised to remove the boiler operating temperature and to state that the stack exit temperature is to be determined at a later time.

Stack Summary

Stack ID	Operation	Height (feet)	Diameter (feet)	Flow Rate (acfm)	Temperature (°F)
S-1	Foam Cup Line	TBD	TBD	TBD	1,400-2,000 TBD

Appendix A: Emission Calculations

Company Name: Genpak, LLC
Address City IN Zip: 845 South Elm Street, Scottsburg, IN 47170
CP: 143-11382
Plt ID: 143-00016
Reviewer: PR/EVP
Date: September 28, 1999

Uncontrolled Potential Emissions (tons/year)				
Emissions Generating Activity				
Pollutant	Natural Gas Combustion	Pre-Expansion Room Emissions	Pentane Emissions (Mold Machines)	TOTAL
PM	0.17	0.00	0.00	0.2
PM10	0.70	0.00	0.00	0.7
SO2	0.05	0.00	0.00	0.1
NOx	9.15	0.00	0.00	9.2
VOC	0.50	100.10	56.40	157.0
CO	7.69	0.00	0.00	7.7
total HAPs	0.17	0.00	0.00	0.2
worst case single HAP	(Hexane) 0.16	0.00	0.00	0.0
Total emissions based on rated capacity at 8,760 hours/year.				
Controlled Potential Emissions (tons/year)				
Emissions Generating Activity				
Pollutant	Natural Gas Combustion	Pre-Expansion Room Emissions	Pentane Emissions (Mold Machines)	TOTAL
PM	0.17	0.00	0.00	0.2
PM10	0.70	0.00	0.00	0.7
SO2	0.05	0.00	0.00	0.1
NOx	9.15	0.00	0.00	9.2
VOC	0.50	9.76	56.40	66.7
CO	7.69	0.00	0.00	7.7
total HAPs	0.17	0.00	0.00	0.2
worst case single HAP	(Hexane) 0.16	0.00	0.00	0.0
Total emissions based on rated capacity at 8,760 hours/year, after control.				

**VOC Emissions
From the Foam Cup Line**

Company Name: Genpak, LLC
Address City IN Zip: 845 South Elm Street, Scottsburg, IN 47170
CP: 143-11382
Plt ID: 143-00016
Reviewer: PR/EVP
Date: September 28, 1999

Uncontrolled VOC Emissions
Foam Cup Line

		Raw Material		The Pre-Expansion Room		A percentage of pentane is retained in the product and not released. Therefore these emissions are not included in the total emissions.		Mold Machines		Facility Wide Emissions
Description	Maximum Throughput in lbs/yr	% Pentane in Raw Material	Total Pentane in Raw Material (tons/yr)	Pre-Expansion Room Emissions	Pentane Emissions without Boiler (tons/yr)	Pentane Remaining in Product	Pentane remaining in product (tons/yr)	Pentane Emissions (Mold Machines)	Pentane Emissions from Mold Machines (tons/yr)	Total Potential Emissions (tons/yr)
Foam Cup Line	7,000,000.00	5.20%	182.00	55.00%	100.10	15.00%	27.30	30.00%	54.60	154.70

Controlled VOC Emissions
Foam Cup Line

		Raw Material		The Pre-Expansion Room is controlled by a boiler. VOCs emissions are captured with 95% efficiency and destroyed with 95% efficiency, for an overall control efficiency of 90.25%.		A percentage of pentane is retained in the product and not released. Therefore these emissions are not included in the total emissions.		The Mold Machines are not equipped with control equipment. Mold Machine emissions are the only emissions from the line that are not captured. Therefore, Mold Machine emissions equal the total foam cup line emissions.		Facility Wide Emissions
Description	Maximum Throughput in lbs/yr	% Pentane in Raw Material	Total Pentane in Raw Material (tons/yr)	Pre-Expansion Room Emissions	Pentane Emissions with Boiler (tons/yr)	Pentane Remaining in Product	Pentane remaining in product (tons/yr)	Pentane Emissions (Mold Machines)	Pentane Emissions from Mold Machines (tons/yr)	Total Potential Emissions (tons/yr)
Foam Cup Line	7,000,000.00	5.20%	182.00	55.00%	9.76	15.00%	27.30	30.00%	54.60	64.36

METHODOLOGY:

Total Emissions captured by boiler) + (Pentane Remaining in Product) + (Pentane Emissions from Mold Machine) = Total Pentane in Raw Material (200,200 + 54,600 + 109,200) lbs/year + 364,000 lb/yr

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

Company Name: Genpak, LLC
Address City IN Zip: 845 South Elm Street, Scottsburg, IN 47170
CP: 143-11382
Pit ID: 143-00016
Reviewer: PR/EVP
Date: September 28, 1999

Heat Input Capacity MMBtu/hr	Potential Throughput MMCF/yr
20.9	183.1

	Pollutant					
	PM*	PM10*	SO2	NOx	VOC	CO
Emission Factor in lb/MMCF	1.9	7.6	0.6	100.0 **see below	5.5	84.0
Potential Emission in tons/yr	0.17	0.70	0.05	9.15	0.50	7.69

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

**Emission Factors for NOx: Uncontrolled = 100, Low NOx Burner = 50, Low NOx Burners/Flue gas recirculation = 32

Methodology

All emission factors are based on normal firing.

MMBtu = 1,000,000 Btu

MMCF = 1,000,000 Cubic Feet of Gas

Potential Throughput (MMCF) = Heat Input Capacity (MMBtu/hr) x 8,760 hrs/yr x 1 MMCF/1,000 MMBtu

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 (SUPPLEMENT D 3/98)

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

Note: Check the applicable rules and test methods for PM and PM10 when using the above emission factors to confirm that the correct factor is used (i.e., condensable included/not included).

See page 2 for HAPs emissions calculations.

**Appendix A: Emissions Calculations
Natural Gas Combustion Only**

MM BTU/HR <100

HAPs Emissions

Company Name: Genpak, LLC
Address City IN Zip: 845 South Elm Street, Scottsburg, IN 47170
CP: 143-11382
Pit ID: 143-00016
Reviewer: PR/EVP
Date: September 28, 1999

HAPs - Organics

Emission Factor in lb/MMcf	Benzene 2.1E-03	Dichlorobenzene 1.2E-03	Formaldehyde 7.5E-02	Hexane 1.8E+00	Toluene 3.4E-03
Potential Emission in tons/yr	1.922E-04	1.099E-04	6.866E-03	1.648E-01	3.112E-04

HAPs - Metals

Emission Factor in lb/MMcf	Lead 5.0E-04	Cadmium 1.1E-03	Chromium 1.4E-03	Manganese 3.8E-04	Nickel 2.1E-03
Potential Emission in tons/yr	4.577E-05	1.007E-04	1.282E-04	3.479E-05	1.922E-04

Methodology is the same as page 1.

0.17

The five highest organic and metal HAPs emission factors are provided above.
 Additional HAPs emission factors are available in AP-42, Chapter 1.4.