CONSTRUCTION PERMIT
AND ENHANCED NEW SOURCE REVIEW
OFFICE OF AIR MANAGEMENT

AK Industries, Inc.
2055 Pidco Drive
Plymouth, Indiana 46563

This permit is issued to the above mentioned company (herein known as the Permittee) under the provisions of 326 IAC 2-1 and 40 CFR 52.780, with conditions listed on the attached pages.

Construction Permit No.: CP-099-10311-00043	
Issued by: Paul Dubenetzky, Branch Chief Office of Air Management	Issuance Date:

This permit shall supersede all other previous permits.

SECTION A SOURCE SUMMARY

This permit is based on information requested by the Indiana Department of Environmental Management (IDEM), Office of Air Management (OAM), and presented in the permit application.

A.1 General Information

The Permittee owns and operates a fiberglass parts manufacturing operation.

Responsible Official:	John Sobo
Source Address:	2055 Pidco Drive, Plymouth, Indiana 46563
Mailing Address:	P.O. Box 640, Plymouth, Indiana 46563
SIC Code:	3089
County Location:	Marshall
County Status:	Attainment or unclassifiable for all criteria pollutants
Source Status:	Minor Source under PSD rules Major Source under Part 70 rules

A.2 Emission Units and Pollution Control Equipment Summary

a) the following existing equipment:

1. three (3) resin flowcoat booths, identified as CP1, CP2, and CP3, respectively, each with a maximum design rate of 1 unit/hr, with emissions exhausted to stacks F1, F3, and F4, respectively,
2. one (1) gelcoat booth, identified as G1, with a maximum design rate of 5.71 units/hr, with emissions controlled by a dry filter system, and emissions exhausted to stack F5,
3. one (1) filament winding machine, identified as (FW4), with a maximum design rate of 4 units/hr,
4. six (6) filament winding mandrels, identified as FWSH1, FWSH2, FWSH3, FWSH4, FWSH5, FWSH6, each with a maximum design rate of 1 unit/hr, each with emissions controlled by a dry filter system, with emissions exhausted to stacks F6, F7, F8, F9, F10, and F11, respectively,
5. one (1) portable resin spray applicator, identified as CPC4, with emissions controlled by a dry filter system, with emissions exhausted to stacks F6, F7, F8, F9, F10, or F11,
6. one (1) hand grinding and blasting booth, identified CB1, with emissions controlled by baghouse P1, with emissions exhausted to stack P1,
7. one (1) pneumatic shot blasting booth, identified as CB2, with emissions controlled by baghouse P1, and emissions exhausted to stack P1,
8. one (1) paint booth, identified as PB1, with a maximum design rate of 6 lids/hr, emissions controlled by a dry filter system, and emissions exhausted to stack F2,
9. one (1) hand tooling and finishing area, identified as HT1, with emissions controlled by baghouse P2, with emissions exhausted to P2,
10. one (1) pulverizor, identified as RP1, with emissions controlled by a cyclone, and with emissions exhausted to stack RP1,
11. one (1) regrind unit, identified as RP2, with emissions controlled by a cyclone, and with emissions exhausted to stack RP2,
12. one (1) fitting instillation area, identified as FT1, with a maximum design rate of 2.35 units/hr,
13. five (5) natural gas-fired curing ovens, identified as R01, R02, R03, R04, and R05, respectively, with maximum capacities of 6.0, 8.0, 8.0, 5.0, and 4.0 MMBtu/hr, respectively, with emissions being exhausted to stacks R01, R02, R03, R04, and R05, respectively,

14. two (2) natural gas-fired air make-up units, identified as AW1, and AW2, respectively, with maximum capacities of 2.0 and 3.0 MMBtu/hr, respectively,
15. four (4) natural gas-fired office furnaces, identified as H1, H2, RH1, and RH2, respectively, with maximum capacities of 0.15, 0.15, 0.15, and 0.25 MMBtu/hr, respectively, with emissions exhausted to stacks H1, H2, RH1, and RH2, respectively, and
16. one (1) hand layup area, identified as HL1, and

b) the following proposed equipment:

1. one (1) gelcoat booth, identified as FCG1, with a maximum design capacity of 0.125 parts/hr, with emissions controlled by a dry filter system and exhausted to stack F12,
2. one (1) resin flowcoat booth, identified as FCR1, with a maximum design rate of 0.125 parts/hr, with emissions exhausted to stack F13,
3. one (1) 1.0 MMBtu/hr natural gas-fired cure oven, identified as R06, with emissions exhausted to R06, and
4. one (1) 3.0 MMBtu/hr natural gas-fired air make-up unit, identified as AW3.

A.3 Part 70 Permit Applicability [326 IAC 2-7-2]

This stationary source will be required to have a Part 70 permit by 326 IAC 2-7-2 because:

(a) at least one of the criteria pollutant is greater than or equal to 100 tons per year,
(b) a single hazardous air pollutant (HAP) is greater than or equal to 10 tons per year, or
(c) any combination of HAPs is greater than or equal to 25 tons/year.

SECTION B GENERAL CONSTRUCTION AND OPERATION CONDITIONS

THIS SECTION OF THE PERMIT IS BEING ISSUED UNDER THE PROVISIONS OF 326 IAC 2-1 AND 40 CFR 52.780, WITH CONDITIONS LISTED BELOW.

Construction Conditions [326 IAC 2-1-3.2]

B.1 General Construction Conditions

(a) The data and information supplied with the application shall be considered part of this permit. Prior to any proposed change in construction which may affect allowable emissions, the change must be approved by the Office of Air Management (OAM).

(b) This permit 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 Effective Date of the Permit [IC13-15-5-3]

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

B.3 Revocation of Permits [326 IAC 2-1-9(b)]

Pursuant to 326 IAC 2-1-9(b)(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.4 Permit Review Rules [326 IAC 2]

Notwithstanding Construction Condition No. B.5, all requirements and conditions of this construction permit shall remain in effect unless modified in a manner consistent with procedures established for modifications of construction permits pursuant to 326 IAC 2 (Permit Review Rules).

B.5 First Time Operation Permit [326 IAC 2-1-4]

This document shall also become a first-time operation permit pursuant to 326 IAC 2-1-4 (Operating Permits) 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 facilities were constructed as proposed in the application. The facilities covered in the Construction Permit may begin operating on the date the Affidavit of Construction is postmarked or hand delivered to IDEM.

(b) 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.

(c) Permittee shall receive an Operation Permit Validation Letter from the Chief of the Permit Administration & Development Section and attach it to this document.

(d) The operation permit will be subject to annual operating permit fees pursuant to 326 IAC 2-7-19 (Fees).

(e) The Permittee has submitted their Part 70 permit for the existing source. The equipment being reviewed under this permit shall be incorporated in the submitted Part 70 application.

Operation Conditions

B.6 General Operation Conditions

(a) The data and information supplied in the application shall be considered part of this permit. Prior to any change in the operation which may result in an increase in allowable emissions exceeding those specified in 326 IAC 2-1-1 (Construction and Operating Permit Requirements), the change must be approved by the Office of Air Management (OAM).

(b) The Permittee shall 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 (IC13-17) and the rules promulgated thereunder.

B.7. Preventive Maintenance Plan [326 IAC 1-6-3]

Pursuant to 326 IAC 1-6-3 (Preventive Maintenance Plans), the Permittee shall prepare and maintain a preventive maintenance plan, including the following information:

(a) Identification of the individual(s) responsible for inspecting, maintaining, and repairing emission control devices.

(b) A description of the items or conditions that will be inspected and the inspection schedule for said items or conditions.

(c) Identification of the replacement parts which will be maintained in inventory for quick replacement.

The preventive maintenance plan shall be submitted to IDEM, OAM upon request and shall be subject to review and approval.

B.8 Transfer of Permit [326 IAC 2-1-6]

Pursuant to 326 IAC 2-1-6 (Transfer of Permits):

(a) In the event that ownership of this fiberglass parts manufacturing plant is changed, the Permittee shall notify OAM, Permit Branch, within thirty (30) days of the change. Notification shall include the date or proposed date of said change.

(b) The written notification shall be sufficient to transfer the permit from the current owner to the new owner.

(c) The OAM shall reserve the right to issue a new permit.

B.9 Permit Revocation [326 IAC 2-1-9]

Pursuant to 326 IAC 2-1-9(a)(Revocation of Permits), this permit to construct and operate may be revoked for any of the following causes:

(a) Violation of any conditions of this permit.

(b) Failure to disclose all the relevant facts, or misrepresentation in obtaining this permit.

(c) Changes in regulatory requirements that mandate either a temporary or permanent reduction of discharge of contaminants. However, the amendment of appropriate sections of this permit shall not require revocation of this permit.

(d) Noncompliance with orders issued pursuant to 326 IAC 1-5 (Episode Alert Levels) to reduce emissions during an air pollution episode.

(e) For any cause which establishes in the judgment of IDEM, the fact that continuance of this permit is not consistent with purposes of 326 IAC 2-1 (Permit Review Rules).

B.10 Availability of Permit [326 IAC 2-1-3(l)]

Pursuant to 326 IAC 2-1-3(l), the Permittee shall maintain the applicable permit on the premises of the source and shall make this permit available for inspection by the IDEM, or other public official having jurisdiction.

SECTION C SOURCE OPERATION CONDITIONS

Entire Source

Emission Limitation and Standards

C.1 PSD Minor Source VOC Limit [326 IAC 2-2] [40 CFR 52.21]

The source VOC potential to emit (PTE) shall be limited to 249 tons per year, rolled on a monthly basis. Compliance with the limit of this condition will make the Prevention of Significant Deterioration (PSD) rules, 326 IAC 2-2 and 40 CFR 52.21, not applicable in this case.

C.2 PSD Minor Source PM Limit [326 IAC 2-2] [40 CFR 52.21]

The source input particulate matter (PM) emissions shall be limited to 249 tons per year. Section D of this permit contains independently enforceable provisions to satisfy this requirement. Compliance with the limit of this condition and the conditions of Section D will make the Prevention of Significant Deterioration (PSD) rules, 326 IAC 2-2 and 40 CFR 52.21, not applicable in this case.

C.3 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 permit:

(a) Opacity shall not exceed an average of forty percent (40%) in any one (1) six (6) minute averaging period as determined in 326 IAC 5-1-4.

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

C.4 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. 326 IAC 4-1-3(a)(2)(A) and (B) are not federally enforceable.

C.5 Incineration [326 IAC 4-2] [326 IAC 9-1-2(3)]

The Permittee shall not operate an incinerator or incinerate any waste or refuse except as provided in 326 IAC 4-2 and in 326 IAC 9-1-2.

C.6 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.7 Operation of Equipment

All air pollution control equipment listed in this permit and used to comply with an applicable requirement shall be operated at all times that the emission units vented to the control equipment are in operation.

C.8 Asbestos Abatement Projects [326 IAC 14-10] [326 IAC 18] [40 CFR 61.140]

(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
Asbestos Section, Office of Air Management
100 North Senate Avenue, P.O. Box 6015
Indianapolis, Indiana 46206-6015

The notifications do not require a certification by the "responsible official" as defined by 326 IAC 2-7-1(34).

(e) Procedures for Asbestos Emission Control
The Permittee shall comply with the emission control procedures in 326 IAC 14-10-4 and 40 CFR 61.145(c). Per 326 IAC 14-10-4 emission control requirements are mandatory 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) Indiana Accredited 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 Accredited Asbestos Inspector to thoroughly inspect the affected portion of the facility for the presence of asbestos. The requirement that the inspector be accredited is federally enforceable.

Testing Requirements

C.9 Performance Testing [326 IAC 3-6]

(a) All testing shall be performed according to the provisions of 326 IAC 3-6 (Source Sampling Procedures), except as provided elsewhere in this permit, utilizing methods approved by the IDEM,OAM.
A test protocol, except as provided elsewhere in this permit, 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

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 Commissioner, 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

C.10 Compliance Monitoring

Compliance with applicable requirements shall be documented as required by this permit. The Permittee shall be responsible for installing any necessary equipment and initiating any required monitoring related to that equipment no more than ninety (90) days after receipt of this permit. If due to circumstances beyond its control, this schedule cannot be met, the Permittee may extend compliance schedule an additional ninety (90) days provided the Permittee notify:

Indiana Department of Environmental Management
Compliance Data Section, 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 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.11 Monitoring Methods [326 IAC 3]

Any monitoring or testing performed to meet the applicable requirements of this permit shall be performed according to the provisions of 326 IAC 3, 40 CFR 60, Appendix A, or other approved methods as specified in this permit.

C.12 Pressure Gauge Specifications

Whenever a condition in this permit requires the measurement of pressure drop across 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 (±2%) of full scale reading.

Corrective Actions and Response Steps

C.13 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 Branch, Office of Air Management
100 North Senate Avenue, P.O. Box 6015
Indianapolis, Indiana 46206-6015
within ninety (90) days from the date of issuance of this permit.

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

(c) If the ERP is disapproved by IDEM, OAM, 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, OAM, 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.14 Risk Management Plan [40 CFR 68.215]

If a regulated substance, subject to 40 CFR 68, is present in a process in more than the threshold quantity, 40 CFR 68 is an applicable requirement and the Permittee shall:

(a) Submit:

(1) A compliance schedule for meeting the requirements of 40 CFR 68 by the date provided in 40 CFR 68.10(a); or

(2) As a part of the compliance certification submitted under 326 IAC 2-7-6(5), a certification statement that the source is in compliance with all the requirements of 40 CFR 68, including the registration and submission of a Risk Management Plan (RMP); and

(3) A verification to IDEM, OAM, that a RMP or a revised plan was prepared and submitted as required by 40 CFR 68.

(b) Provide annual certification to IDEM, OAM, that the Risk Management Plan is being properly implemented.

All documents submitted pursuant to this condition shall include the certification by the "responsible official" as defined by 326 IAC 2-7-1(34).

C.15 Compliance Monitoring Plan - Failure to Take Response Steps [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 permit;

(3) The Compliance Monitoring Requirements in Section D of this permit;

(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 permit; and

(5) A Compliance Response Plan (CRP) for each compliance monitoring condition of this permit. 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 permit 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 permit; 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 permit, 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 permit 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 permit conditions are technically inappropriate, has previously submitted a request for an administrative amendment to the permit, 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.

Record Keeping and Reporting Requirements

C.16 Emission Statement [326 IAC 2-6]

(a) The Permittee shall submit an annual emission statement certified pursuant to the requirements of 326 IAC 2-6, that meets the requirements of 326 IAC 2-6 (Emission Reporting).

This annual statement must be received by July 1 of each year and must comply with the minimum requirements specified in 326 IAC 2-6-4. The submittal should cover the period defined in 326 IAC 2-6-2(8) (Emission Statement Operating Year). The annual statement must be submitted to:

Indiana Department of Environmental Management
Technical Support and Modeling Section, Office of Air Management
100 North Senate Avenue, P.O. Box 6015
Indianapolis, Indiana 46206-6015

(b) The annual emission statement 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, OAM, on or before the date it is due.

C.17 Monitoring Data Availability

(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 permit 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 permit 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 permit.

(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 in (a) above.

C.18 General Record Keeping Requirements

(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 permit;

(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 improper maintenance 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 permit, and whether a deviation from a permit 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 permit issuance.

C.19 General Reporting Requirements

(a) To affirm that the source has met all the compliance monitoring requirements stated in this permit the source shall submit a semi-annual Compliance Monitoring Report. Any deviation from the requirements and the date(s) of each deviation must be reported.

(b) The report required in (a) of this condition and reports required by conditions in Section D of this permit 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

(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, OAM, on or before the date it is due.

(d) Unless otherwise specified in this permit, any quarterly report shall be submitted within thirty (30) days of the end of the reporting period.

(e) All instances of deviations as described in Section B- Deviations from Permit Requirements Conditions must be clearly identified in such reports.

(f) Any corrective actions or response steps taken as a result of each deviation must be clearly identified in such reports.

(g) The first report shall cover the period commencing on the date of issuance of this permit and ending on the last day of the reporting period.

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).

C.20 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 the standards for recycling and emissions reduction:

(a) Persons opening appliances for maintenance, service, repair or disposal must comply with the required practices pursuant to 40 CFR 82.156

(b) Equipment used during the maintenance, service, repair or disposal of appliances must comply with the standards for recycling and recovery equipment pursuant to 40 CFR 82.158.

(c) Persons performing maintenance, service, repair or disposal of appliances must be certified by an approved technician certification program pursuant to 40 CFR 82.161.

SECTION D.1 FACILITY CONDITIONS

Fiberglass Parts Manufacturing Operation

(a) three (3) resin flowcoat booths, identified as CP1, CP2, and CP3, respectively, each with a maximum design rate of 1 unit/hr, with emissions exhausted to stacks F1, F3, and F4, respectively,
(b) one (1) gelcoat booth, identified as G1, with a maximum design rate of 5.71 units/hr, with emissions controlled by a dry filter system, and emissions exhausted to stack F5,
(c) one (1) filament winding machine, identified as (FW4), with a maximum design rate of 4 units/hr,
(d) six (6) filament winding mandrels, identified as FWSH1, FWSH2, FWSH3, FWSH4, FWSH5, and FWSH6, each with a maximum design rate of 1 unit/hr, each with emissions controlled by a dry filter system, with emissions exhausted to stacks F6, F7, F8, F9, F10, and F11, respectively,
(e) one (1) portable resin spray applicator, identified as CPC4, with emissions controlled by a dry filter system, with emissions exhausted to stacks F6, F7, F8, F9, F10, or F11,
(f) one (1) hand grinding and blasting booth, identified CB1, with emissions controlled by baghouse P1, with emissions exhausted to stack P1,
(g) one (1) pneumatic shot blasting booth, identified as CB2, with emissions controlled by baghouse P1, and emissions exhausted to stack P1,
(h) one (1) hand tooling and finishing area, identified as HT1, with emissions controlled by baghouse P2, with emissions exhausted to P2,
(i) one (1) pulverizor, identified as RP1, with emissions controlled by a cyclone, and with emissions exhausted to stack RP1,
(j) one (1) regrind unit, identified as RP2, with emissions controlled by a cyclone, and with emissions exhausted to stack RP2,
(k) one (1) fitting instillation area, identified as FT1, with a maximum design rate of 2.35 units/hr,
(l) one (1) hand layup area, identified as HL1,
(m) one (1) gelcoat booth, identified as FCG1, with a maximum design capacity of 0.125 parts/hr, with emissions controlled by a dry filter system and exhausted to stack F12, and
(n) one (1) resin flowcoat booth, identified as FCR1, with a maximum design rate of 0.125 parts/hr, with emissions exhausted to stack F13.

Emissions Limitation and Standards

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

Pursuant to 326 IAC 8-1-6, the fiberglass parts manufacturing operation is subject to the requirements of 326 IAC 8-1-6, which requires that the Best Available Control Technology (BACT) be used to control VOC emissions. BACT for this new source shall be satisfied by the requirements of 326 IAC 2-1-3.4 (New Source Toxics Control) specified in Condition D.1.2.

D.1.2 New Source Toxics Control [326 IAC 2-1-3.4]

Pursuant to the MACT determination under 326 IAC 2-1-3.4, operating conditions for the fiberglass parts manufacturing operation shall be the following:

(a) Use of resins and gel coats shall be limited such that the potential to emit (PTE) volatile organic HAP from resins and gel coats only shall be less than 100 tons per twelve (12) consecutive months. Compliance with this limit shall be determined based upon the following criteria:

(1) Monthly usage by weight, monomer content, method of application, and other emission reduction techniques for each gel coat and resin shall be recorded. Volatile organic HAP emissions shall be calculated by multiplying the usage of each gel coat and resin by the emission factor that is appropriate for the monomer content, method of application, and other emission reduction techniques for each gel coat and resin, and summing the emissions for all gel coats and resins. Emission factors shall be obtained from the reference approved by IDEM, OAM.

(2) Until such time that new emissions information is made available by U.S. EPA in its AP-42 document or other U.S. EPA-approved form, emission factors shall be taken from the following reference approved by IDEM, OAM: "CFA Emission Models for the Reinforced Plastics Industries", Composites Fabricators Association, February 28, 1998, and shall not exceed 32.3% styrene emitted per weight of gel coat applied and 17.7% styrene emitted per weight of resin applied. For the purposes of these emission calculations, monomer in resins and gel coats that is not styrene shall be considered as styrene on an equivalent weight basis.

(b) Resins and gel coats used, including filled resins and tooling resins and gel coats, shall be limited to maximum monomer contents of 35 percent (35%) by weight for resins, 37 percent (37%) by weight for gel coats or their equivalent on an emissions mass basis. Monomer contents shall be calculated on a neat basis, i.e., excluding any filler. Compliance with these monomer content limits shall be demonstrated on a monthly basis.

The use of resins with monomer contents lower than 35%, gel coats with monomer contents lower than 37%, and/or additional emission reduction techniques approved by IDEM, OAM, may be used to offset the use of resins with monomer contents higher than 35%, and/or gel coats with monomer contents higher than 37%. Examples of other techniques include, but are not limited to, lower monomer content resins and gel coats, closed molding, vapor suppression, vacuum bagging, controlled spraying, or installing a control device with an overall reduction efficiency of 95%. This is allowed to meet the monomer content limits for resins and gel coats, and shall be calculated on an equivalent emissions mass basis as shown below:

(Emissions from >35% resin or >37% gel coat) - (Emissions from 35% resin or 37% gel coat) # (Emissions from 35% resin or 37% gel coat) - (Emissions from <35% resin, <37% gel coat, and/or other emission reduction techniques).

Where: Emissions, lb or ton = M (mass of resin or gel coat used, lb or ton) * EF (Monomer emission factor for resin or gel coat used, %);

EF, Monomer emission factor = emission factor, expressed as % styrene emitted per weight of resin applied, which is indicated by the monomer content, method of application, and other emission reduction techniques for each gel coat and resin used.

(c) Flow coaters, a type of non-spray application technology of a design and specifications to be approved by IDEM, OAM, shall be used in the following manner:

(1) to apply 50% of all neat resins within 6 months of commencement of operation.

(2) to apply 100% of all neat resins used within 1 year of commencement of operation.

If after 1 year of operation it is not possible to apply a portion of neat resins with flow coaters, equivalent emissions reductions must be obtained via use of other techniques, such as those listed in Condition D.1.2(b) above, elsewhere in the process.

(d) Optimized spray techniques according to a manner approved by IDEM shall be used for gel coats and filled resins (where fillers are required for corrosion or fire retardant purposes) at all times. Optimized spray techniques include, but are not limited to, the use of airless, air-assisted airless, high volume low pressure (HVLP), or other spray applicators demonstrated to the satisfaction of IDEM, OAM, to be equivalent to the spray applicators listed above.

HVLP spray is the technology used to apply material to substrate by means of application equipment that operates between one-tenth (0.1) and ten (10) pounds per square inch gauge (psig) air pressure measured dynamically at the center of the air cap and at the air horns of the spray system.

(e) The listed work practices shall be followed:

(1) To the extent possible, a non-VOC, non-HAP solvent shall be used for cleanup.

(2) Cleanup solvent containers used to transport solvent from drums to work stations shall be closed containers having soft gasketed spring-loaded closures.

(3) Cleanup rags saturated with solvent shall be stored, transported, and disposed of in containers that are closed tightly.

(4) The spray guns used shall be the type that can be cleaned without the need for spraying the solvent into the air.

(5) All solvent sprayed during cleanup or resin changes shall be directed into containers. Such containers shall be closed as soon as solvent spraying is complete. The waste solvent shall be handled in such a manner that evaporation is minimized, and managed in accordance with applicable solid or hazardous waste requirements.

(6) Storage containers used to store VOC- and/or HAP- containing materials shall be kept covered when not in use.

D.1.3 Particulate Matter (PM) Overspray [326 IAC 6-3-2(c)]

Pursuant to 326 IAC 6-3-2(c), the particulate matter overspray emissions from Gelcoat Booth (G1), Mandrals (FSHW1, FSHW2, FSHW3, FSHW4, FSHW5, and FSHW6), portable resin spray unit (CPC4), and gelcoat booth (FCG1), the fiberglass operations shall not exceed the pound per hour emission rate established as E in the following formula:

Interpolation of the data for the process weight rate up to sixty thousand (60,000) pounds per hour shall be accomplished by use of the equation:

$E = 4.10\ P^{0.67}$ where: E = rate of emission in pounds per hour; and P = process weight rate in tons per hour

Extrapolation of the data for the process weight rate in excess of sixty thousand (60,000) pounds per hour shall be accomplished by use of the equation:

$E = 55.0\ P^{0.11} - 40$ where E = rate of emission in pounds per hour; and P = process weight rate in tons per hour

D.1.4 Particulate Matter (PM) [326 IAC 6-3]

Pursuant to 326 IAC 6-3 (Process Operations), the allowable PM emission rate from the following shall not exceed their respective pound per hour limitations when operating at the respective process weight rates.

Facility	P WR (ton/hr)	326 IAC 6-3 PM Limit (lb/hr)
Hand Grinding Area (CB1)	2.08	6.70
Shot Blasting Area (CB2)	0.518	2.64
Pulverizor (RP1)	0.251	1.62
Regrinder (RP2)	0.025	0.35
Hand Tool Area (HT1)	2.08	6.70

The pounds per hour limitation was calculated with the following equation:

Interpolation and extrapolation of the data for the process weight rate up to 60,000 pounds per hour shall be accomplished by use of the equation:

$E = 4.10\ P^{0.67}$ where: E = rate of emission in pounds per hour; and
P = process weight rate in tons per hour

D.1.5 Preventive Maintenance Plan [326 IAC 1-6-3]

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

Compliance Determination Requirements

D.1.6 Testing Requirements [326 IAC 3-6]

The Permittee is not required to test this facility by this permit. However, IDEM may require compliance testing at any specific time when necessary to determine if the facility is in compliance. If testing is required by IDEM, compliance with the volatile organic compound limit specified in Conditions D1.2 shall be determined by a performance test conducted in accordance with Section C - Performance Testing.

D.1.7 Volatile Organic Compounds (VOC)

Compliance with the monomer content and usage limitations contained in Condition D.1.2 shall be determined pursuant to 326 IAC 8-1-4(a)(3) and 326 IAC 8-1-2(a) using formulation data supplied by the manufacturer. However, IDEM, OAM, reserves the authority to determine compliance using Method 24 in conjunction with the analytical procedures specified in 326 IAC 8-1-4.

D.1.8 Particulate Matter (PM)

The dry filters, baghouses, and cyclones for particulate matter control shall be in operation at all times when the fiberglass facilities are in operation.

Compliance Monitoring Requirements

D.1.9 Monitoring

(a) Daily inspections shall be performed to verify the placement, integrity and particle loading of the filters. To monitor the performance of the dry filters, weekly observations shall be made of the overspray and other PM emissions from the fiberglass facilities' stack while one or more of the facilities are in operation. The Compliance Response Plan shall be followed whenever a condition exists which should result in a response step. Failure to take response steps in accordance with Section C - Compliance Monitoring Plan - Failure to Take Response Steps, shall be considered a violation of this permit.

(b) Monthly inspections shall be performed of the particulate emissions from the stack and the presence of overspray on the rooftops and the nearby ground. The Compliance Response Plan for this unit shall contain troubleshooting contingency and response steps for when a noticeable change in overspray emission, or evidence of overspray emission is observed. The Compliance Response Plan shall be followed whenever a condition exists which should result in a response step. Failure to take response steps in accordance with Section C - Compliance Monitoring Plan - Failure to Take Response Steps, shall be considered a violation of this permit.

(c) Additional inspections and preventive measures shall be performed as prescribed in the Preventive Maintenance Plan.

D.1.10 Visible Emissions Notations

(a) Daily visible emission notations of the fiberglass facility exhaust for stacks associated with Conditions D.1.3 and D.1.4, shall be performed during normal daylight operations when exhausting to the atmosphere. A trained employee shall record whether emissions are normal or abnormal.

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

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

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

(e) The Compliance Response Plan for this unit shall contain troubleshooting contingency and response steps for when an abnormal emission is observed.

D.1.11 Baghouse Inspections

An inspection shall be performed each calender quarter of all bags controlling the hand grinding area (CB1), the shot blast area (CB2), and the hand tooling area (HT1) when venting to the atmosphere. A baghouse inspection shall be performed within three months of redirecting vents to the atmosphere and every three months thereafter. Inspections are optional when venting indoors. All defective bags shall be replaced.

D.1.12 Broken Bag or Failure Detection

In the event that bag failure has been observed:

(a) The affected compartments will be shut down immediately until the failed units have been repaired or replaced. For single compartment baghouses, failed units and the associated process will be shut down immediately until the failed units have been repaired or replaced.

(b) Within eight (8) hours of the determination of failure, response steps according to the timetable described in the Compliance Response Plan shall be initiated, For any failure with corresponding response steps and timetable not described in the Compliance Response Plan, response steps shall be devised within eight (8) hours of discovery of the failure and shall include a timetable for completion.

Record Keeping and Reporting Requirements

D.1.13 Record Keeping Requirements

(a) To document compliance with Condition D.1.2, the Permittee shall maintain records in accordance with (1) through (4) below. Records maintained for (1) through (4) shall be taken monthly and shall be complete and sufficient to establish compliance with the volatile organic HAP emission limit established in Condition D.1.2.

(1) The usage by weight and monomer content of each resin and gel coat. 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) Method of application and other emission reduction techniques for each resin and gel coat used;

(4) The calculated total volatile organic HAP emissions from resin and gel coat use for each month.

(b) To document compliance with Conditions D.1.6 and D.1.9, the Permittee shall maintain a log of daily overspray observations, daily and weekly inspections, and those additional inspections prescribed by the Preventive Maintenance Plan.

(c) To document compliance with Condition D.1.10, the Permittee shall maintain records of daily visible emission notations of the fiberglass operations' stack exhaust.

(d) All records shall be maintained in accordance with Section C - General Record Keeping Requirements, of this permit.

D.1.14 Reporting Requirements

A quarterly summary of the information to document compliance with Condition D.1.2 shall be submitted to the addresses 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.

SECTION D.2 FACILITY OPERATION CONDITIONS

Paint Booth

one (1) paint booth, identified as PB1, with a maximum design rate of 6 lids/hr, emissions controlled by a dry filter system, and emissions exhausted to stack F2.

D.2.1 Volatile Organic Compounds (VOC) [326 IAC 2-2]

The input volatile organic compounds (VOC) including clean up solvent, minus the VOC solvent shipped out, delivered to the applicators of Paint Booth PB1 shall be limited to 147 tons per year, based on a 12 month rolling total.

D.2.2 Particulate Matter (PM) Overspray [326 IAC 6-3]

Pursuant to 326 IAC 6-3-2, the allowable particulate matter (PM) emissions from the Paint Booth PB1 shall be limited by the following:

Interpolation and extrapolation of the data for the process weight rate up to sixty thousand (60,000) pounds per hour shall be accomplished by use of the equation:

$E = 4.10\ P^{0.67}$

where:

E = rate of emission in lb/hr, and
P = process weight rate in ton/hr

D.2.3 Miscellaneous Metal Coating [326 IAC 8-2-9]

Pursuant to 326 IAC 8-2-9 (Miscellaneous Metal Coating Operations), the volatile organic compound (VOC) content of coating delivered to the applicator at the spray booth shall be limited to 3.5 pounds of VOCs per gallon of coating less water, for extreme performance coatings.

Solvent sprayed from application equipment during cleanup or color changes shall be directed into containers. Such containers shall be closed as soon as such solvent spraying is complete, and the waste solvent shall be disposed of in such a manner that evaporation is minimized.

D.2.4 Preventive Maintenance Plan [326 IAC 1-6-3]

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

Compliance Determination Requirements

D.2.5 Testing Requirements [326 IAC 3-6]

The Permittee is not required to test this facility by this permit. However, IDEM may require compliance testing at any specific time when necessary to determine if the facility is in compliance. If testing is required by IDEM, compliance with the volatile organic compound limit specified in Condition D.2.2 shall be determined by a performance test conducted in accordance with Section C - Performance Testing.

D.2.6 Particulate Matter (PM)

The dry filters for particulate matter control shall be in operation at all times when paint booth PB1 is in operation.

Compliance Monitoring Requirements

D.2.7 Monitoring

(a) Daily inspections shall be performed to verify the placement, integrity and particle loading of the filters. To monitor the performance of the dry filters, weekly observations shall be made of the overspray and other PM emissions from the fiberglass facilities' stack while one or more of the facilities are in operation. The Compliance Response Plan shall be followed whenever a condition exists which should result in a response step. Failure to take response steps in accordance with Section C - Compliance Monitoring Plan - Failure to Take Response Steps, shall be considered a violation of this permit.

(b) Monthly inspections shall be performed of the particulate emissions from the stack and the presence of overspray on the rooftops and the nearby ground. The Compliance Response Plan for this unit shall contain troubleshooting contingency and response steps for when a noticeable change in overspray emission, or evidence of overspray emission is observed. The Compliance Response Plan shall be followed whenever a condition exists which should result in a response step. Failure to take response steps in accordance with Section C - Compliance Monitoring Plan - Failure to Take Response Steps, shall be considered a violation of this permit.

(c) Additional inspections and preventive measures shall be performed as prescribed in the Preventive Maintenance Plan.

D.2.8 Visible Emissions Notations

(a) Daily visible emission notations of the fiberglass facility exhaust for stacks associated with Condition D.2.1 shall be performed during normal daylight operations when exhausting to the atmosphere. A trained employee shall record whether emissions are normal or abnormal.

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

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

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

(e) The Compliance Response Plan for this unit shall contain troubleshooting contingency and response steps for when an abnormal emission is observed.

D.2.9 Record Keeping Requirements

(a) To document compliance with Condition D.2.1, the Permittee shall maintain records in accordance with (1) through (6) below. Records maintained for (1) through (6) shall be taken monthly and shall be complete and sufficient to establish compliance with the VOC usage limits and/or the VOC emission limits established in Condition D.2.1.

(1) The amount and VOC content of each coating material and solvent used. Records shall include purchase orders, invoices, and material safety data sheets (MSDS) necessary to verify the type and amount used. Solvent usage records shall differentiate between those added to coatings and those used as cleanup solvents;

(2) A log of the dates of use;

(3) The volume weighted VOC content of the coatings used for each month;

(4) The cleanup solvent usage for each month;

(5) The total VOC usage for each month; and

(6) The weight of VOCs emitted for each compliance period.

(b) To document compliance with Condition D.2.2 and D.2.7, the Permittee shall maintain a log of daily overspray observations, daily and weekly inspections, and those additional inspections prescribed by the Preventive Maintenance Plan.

(c) To document compliance with Condition D.2.3, the Permittee shall maintain records in accordance with requirement listed below. Records maintained for the requirement below shall be taken monthly and shall be complete and sufficient to establish compliance with the VOC usage limits and/or the VOC emission limits established in Condition D.2.3.

The amount and VOC content of each coating material and solvent used. Records shall include purchase orders, invoices, and material safety data sheets (MSDS) necessary to verify the type and amount used. Solvent usage records shall differentiate between those added to coatings and those used as cleanup solvents.

(d) To document compliance with Condition D.2.8, the Permittee shall maintain records of daily visible emission notations of the fiberglass operations' stack exhaust.

(e) All records shall be maintained in accordance with Section C - General Record Keeping Requirements, of this permit.

D.2.10 Reporting Requirements

A quarterly summary of the information to document compliance with Condition D.2.1 shall be submitted to the addresses 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.

SECTION D.3 FACILITY OPERATION CONDITIONS

Combustion Units

1. five (5) natural gas-fired curing ovens, identified as R01, R02, R03, R04, and R05, respectively, with maximum capacities of 6.0, 8.0, 8.0, 5.0, and 4.0 MMBtu/hr, respectively, with emissions being exhausted to stacks R01, R02, R03, R04, and R05, respectively,
2. two (2) natural gas-fired air make-up units, identified as AW1, and AW2, respectively, with maximum capacities of 2.0 and 3.0 MMBtu/hr, respectively,
3. four (4) natural gas-fired office furnaces, identified as H1, H2, RH1, and RH2, respectively, with maximum capacities of 0.15, 0.15, 0.15, and 0.25 MMBtu/hr, respectively, with emissions exhausted to stacks H1, H2, RH1, and RH2, respectively,
4. one (1) 1.0 MMBtu/hr natural gas-fired cure oven, identified as R06, with emissions exhausted to R06, and
5. one (1) 3.0 MMBtu/hr natural gas-fired air make-up unit, identified as AW3.

There are no applicable requirements for the equipment listed in this section.

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

Quarterly Report

Source Name: AK Industries, Inc.
Source Address: 2055 Pidco Drive, Plymouth, Indiana 46563
Mailing Address: P.O. Box 640, Plymouth, Indiana 46563
Permit No.: CP 099-10311-00043
Parameter: Usage of all gelcoats, resins, and adhesives from the fiberglass layup operation.
Limit: Less Than 100 Tons VOC Per Year

YEAR: _____

Month	Column 1	Column 2	Column 1 + Column 2
	This Month	Previous 11 Months	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
COMPLIANCE DATA SECTION

Quarterly Report

Source Name: AK Industries, Inc.
Source Address: 2055 Pidco Drive, Plymouth, Indiana 46563
Mailing Address: P.O. Box 640, Plymouth, Indiana 46563
Permit No.: CP 099-10311-00043
Parameter: Usage of all coatings and solvents from Paint Booth PB1.
Limit: Limit of 147 tons Input VOC Per Year

YEAR: _____

Month	Column 1	Column 2	Column 1 + Column 2
	This Month	Previous 11 Months	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: _____

MALFUNCTION REPORT

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF AIR MANAGEMENT
FAX NUMBER - 317 233-5967

This form should only be used to report malfunctions applicable to Rule 326 IAC 1-6 and to qualify for the exemption under 326 IAC 1-6-4.

THIS FACILITY MEETS THE APPLICABILITY REQUIREMENTS BECAUSE: IT HAS POTENTIAL TO EMIT 25 LBS/HR PARTICULATES ?_____, 100 LBS/HR VOC ?_____, 100 LBS/HR SULFUR DIOXIDE ?_____ OR 2000 LBS/HR OF ANY OTHER POLLUTANT ?_____ EMISSIONS FROM MALFUNCTIONING CONTROL EQUIPMENT OR PROCESS EQUIPMENT CAUSED EMISSIONS IN EXCESS OF APPLICABLE LIMITATION _____.

THIS MALFUNCTION RESULTED IN A VIOLATION OF: 326 IAC _____ OR, PERMIT CONDITION # _____ AND/OR PERMIT LIMIT OF _____

THIS INCIDENT MEETS THE DEFINITION OF 'MALFUNCTION' AS LISTED ON REVERSE SIDE ? Y N

THIS MALFUNCTION IS OR WILL BE LONGER THAN THE ONE (1) HOUR REPORTING REQUIREMENT ? Y N

COMPANY:_____PHONE NO. _____

LOCATION: (CITY AND COUNTY)_____

PERMIT NO. _____ AFS PLANT ID: _____ AFS POINT ID: _____ INSP: _____

CONTROL/PROCESS DEVICE WHICH MALFUNCTIONED AND REASON: _____
_____

DATE/TIME MALFUNCTION STARTED: _____/_____/ 19____ _____ AM / PM

ESTIMATED HOURS OF OPERATION WITH MALFUNCTION CONDITION:_____

DATE/TIME CONTROL EQUIPMENT BACK-IN SERVICE_____/_____/ 19____ _____ AM/PM

TYPE OF POLLUTANTS EMITTED: TSP, PM-10, SO2, VOC, OTHER: _____

ESTIMATED AMOUNT OF POLLUTANT EMITTED DURING MALFUNCTION: _____
_____

MEASURES TAKEN TO MINIMIZE EMISSIONS: _____
_____

REASONS WHY FACILITY CANNOT BE SHUTDOWN DURING REPAIRS:

CONTINUED OPERATION REQUIRED TO PROVIDE ESSENTIAL* SERVICES: _____
CONTINUED OPERATION NECESSARY TO PREVENT INJURY TO PERSONS:_____
CONTINUED OPERATION NECESSARY TO PREVENT SEVERE DAMAGE TO EQUIPMENT:_____
INTERIM CONTROL MEASURES: (IF APPLICABLE) _____
_____

MALFUNCTION REPORTED BY:
_____TITLE:_____
(SIGNATURE IF FAXED)

MALFUNCTION RECORDED BY: _____DATE:_____TIME:_____

Please note - This form should only be used to report malfunctions applicable to Rule 326 IAC 1-6 and to qualify for the exemption under 326 IAC 1-6-4.

326 IAC 1-6-1 Applicability of rule

Sec. 1. The requirements of this rule (326 IAC 1-6) shall apply to the owner or operator of any facility which has the potential to emit twenty-five (25) pounds per hour of particulates, one hundred (100) pounds per hour of volatile organic compounds or SO2, or two thousand (2,000) pounds per hour of any other pollutant; or to the owner or operator of any facility with emission control equipment which suffers a malfunction that causes emissions in excess of the applicable limitation.

326 IAC 1-2-39 "Malfunction" definition

Sec. 39. Any sudden, unavoidable failure of any air pollution control equipment, process, or combustion or process equipment to operate in a normal and usual manner. (Air Pollution Control Board; 326 IAC 1-2-39; filed Mar 10, 1988, 1:20 p.m. : 11 IR 2373)

***Essential services** are interpreted to mean those operations, such as, the providing of electricity by power plants. Continued operation solely for the economic benefit of the owner or operator shall not be sufficient reason why a facility cannot be shutdown during a control equipment shutdown.

If this item is checked on the front, please explain rationale:

_____

_____

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

CONSTRUCTION PERMIT
SEMI-ANNUAL COMPLIANCE MONITORING REPORT

Source Name: AK Industries, Inc.
Source Address: 2055 Pidco Drive, Plymouth, Indiana 46563
Mailing Address: P.O. Box 640, Plymouth, Indiana 46563
Permit No.: 099-10311-00043

Months: _____ to _____ Year: _____

This report is an affirmation that the source has met all the compliance monitoring requirements stated in this permit. This report shall be submitted semi-annually. Any deviation from the compliance monitoring requirements and the date(s) of each deviation must be reported. Additional pages may be attached if necessary. This form can be supplemented by attaching the Emergency/Deviation Occurrence Report. If no deviations occurred, please specify in the box marked "No deviations occurred this reporting period".

9 NO DEVIATIONS OCCURRED THIS REPORTING PERIOD

9 THE FOLLOWING DEVIATIONS OCCURRED THIS REPORTING PERIOD.

Compliance Monitoring Requirement (eg. Permit Condition D.1.1, D.1.5(b))	**Number of Deviations**	**Date of each Deviation**

Form Completed By: _____
Title/Position: _____
Date: _____
Phone: _____

Attach a signed certification to complete this report.

Indiana Department of Environmental Management
Office of Air Management

Technical Support Document (TSD) for New Construction and Operation and Enhanced New Source Review (ENSR)

Source Background and Description

Source Name:	AK Industries, Inc.
Source Location:	2055 Pidco Drive, Plymouth, Indiana 46563
County:	Marshall
Construction Permit No.:	CP-099-10311-00043
SIC Code:	3089
Permit Reviewer:	SDF

The Office of Air Management (OAM) has reviewed an application from AK Industries, Inc. relating to the construction and operation of a fiberglass layup operation, consisting of:

(a) the following existing equipment:

(1) three (3) resin flowcoat booths, identified as CP1, CP2, and CP3, respectively, each with a maximum design rate of 1 unit/hr, with emissions exhausted to stacks F1, F3, and F4, respectively,
(2) one (1) gelcoat booth, identified as G1, with a maximum design rate of 5.71 units/hr, with emissions controlled by a dry filter system, and emissions exhausted to stack F5,
(3) one (1) filament winding machine, identified as (FW4), with a maximum design rate of 4 units/hr,
(4) six (6) filament winding mandrels, identified as FWSH1, FWSH2, FWSH3, FWSH4, FWSH5, and FWSH6, each with a maximum design rate of 1 unit/hr, each with emissions controlled by a dry filter system, with emissions exhausted to stacks F6, F7, F8, F9, F10, and F11, respectively,
(5) one (1) portable resin spray applicator, identified as CPC4, with emissions controlled by a dry filter system, with emissions exhausted to stacks F6, F7, F8, F9, F10, or F11,
(6) one (1) hand grinding and blasting booth, identified CB1, with emissions controlled by baghouse P1, with emissions exhausted to stack P1,
(7) one (1) pneumatic shot blasting booth, identified as CB2, with emissions controlled by baghouse P1, and emissions exhausted to stack P1,
(8) one (1) paint booth, identified as PB1, with a maximum design rate of 6 lids/hr, emissions controlled by a dry filter system, and emissions exhausted to stack F2,
(9) one (1) hand tooling and finishing area, identified as HT1, with emissions controlled by baghouse P2, with emissions exhausted to P2,
(10) one (1) pulverizor, identified as RP1, with emissions controlled by a cyclone, and with emissions exhausted to stack RP1,
(11) one (1) regrind unit, identified as RP2, with emissions controlled by a cyclone, and with emissions exhausted to stack RP2,
(12) one (1) fitting instillation area, identified as FT1, with a maximum design rate of 2.35 units/hr,

(13) five (5) natural gas-fired curing ovens, identified as R01, R02, R03, R04, and R05, respectively, with maximum capacities of 6.0, 8.0, 8.0, 5.0, and 4.0 MMBtu/hr, respectively, with emissions being exhausted to stacks R01, R02, R03, R04, and R05, respectively,

(14) two (2) natural gas-fired air make-up units, identified as AW1, and AW2, respectively, with maximum capacities of 2.0 and 3.0 MMBtu/hr, respectively,

(15) four (4) natural gas-fired office furnaces, identified as H1, H2, RH1, and RH2, respectively, with maximum capacities of 0.15, 0.15, 0.15, and 0.25 MMBtu/hr, respectively, with emissions exhausted to stacks H1, H2, RH1, and RH2, respectively, and

(16) one (1) hand layup area, identified as HL1,

(b) and the following proposed equipment:

(1) one (1) gelcoat booth, identified as FCG1, with a maximum design capacity of 0.125 parts/hr, with emissions controlled by a dry filter system and exhausted to stack F12,

(2) one (1) resin flowcoat booth, identified as FCR1, with a maximum design rate of 0.125 parts/hr, with emissions exhausted to stack F13,

(3) one (1) 1.0 MMBtu/hr natural gas-fired cure oven, identified as R06, with emissions exhausted to R06, and

(4) one (1) 3.0 MMBtu/hr natural gas-fired air make-up unit, identified as AW3.

Stack Summary

Stack ID	Operation	Ht (feet)	Dia. (feet)	Flow Rate (acfm)	Temp. (°F)
F1	Flowcoat Booth	30	2.3	7500	70
F3	Flowcoat Booth	30	2.5	7500	70
F4	Flowcoat Booth	30	2.5	7500	70
F2	Paint Booth	30	2.5	7500	70
F5	Gelcoat Booth	30	2.5	7500	70
F6	Mandrel	30	2.5	3500	70
F7	Mandrel	30	2.5	3500	70
F8	Mandrel	30	2.5	3500	70
F9	Mandrel	30	2.5	3500	70
F10	Mandrel	30	2.5	3500	70
F11	Mandrel	30	2.5	3500	70
F12	Gelcoat Booth	24	3.0	8000	70
F13	Flowcoat Booth	24	3.0	8000	70
H1	Furnace	12.5	0.33	150	120
H2	Furnace	12.5	0.33	150	120
P1	Grinding and Blasting Collector	25	2.0	15000	70
P2	Hand Tooling Baghouse	25	2.0	15000	70
R01	Rot. Oven	20	1.5	2500	500
R01	Rot. Oven	25	1.0	3000	550
R03	Rot. Oven	28	3.0	3000	550
R04	Rot. Oven	30	1.0	2500	550
R05	Rot. Oven	24	2.0	16700	550
R06	Rot. Oven	22	2.5	14000	350
RP1	Pulverizor	24	2.0	8580	90
RP2	Regrind	24	2.5	5000	70
RH1	Thermocycle	20	0.5	800	400
RH2	Gas Furnace	20	0.33	800	350

Recommendation

The staff recommends to the Commissioner that the construction and operation be approved. This recommendation is based on the following facts and conditions:

Information, unless otherwise stated, used in this review was derived from the application and additional information submitted by the applicant.

A complete application for the purposes of this review was received on November 4, 1998. This permit shall supersede all previously issued permits.

Emissions Calculations

The following table lists the fiberglass layup units and the factors required for determining the % flashoff as obtained from the CFA Emission Model:

Unit	Material	Max . Usage Rate	Application	VS / NVS	Wt% Monomer	% Flashoff	% Transfer Efficiency
CP1 - 3	resin	720 lb/hr	unc. spray	NVS	35	7	85
G1	gelcoat	63 lb/hr	unc. spray	NVS	36.8	18.8	75
Three Fil. Guns	resin	638.40 lb/hr	fil. winding	NVS	35	6.6	95
Port Spray Gun	resin	212.80 lb/hr	fil. winding	NVS	35	7.0	85
FW4	resin	109.20 lb/hr	fil. winding	NVS	34.5	6.6	85
FCR1	resin	25 lb/hr	unc. spray	NVS	38	9.1	85
FCG1	gelcoat	43.05 lb/hr	unc. spray	NVS	33	14.7	75

1. Three Resin Flowcoat Booths (CP1, CP2, and CP3) and Hand Layup Area Emissions:

The following calculations determine the emissions from the three resin flowcoat booths and hand layup area based on 8,760 hours of operation, maximum hourly styrene (r), superlease (sl), and super blue (sb) usage rates of 240 lb r/hr, 0.12 lb sl/hr, and 0.018 lb sb/hr, maximum monomer styrene content of 35%, a styrene flashoff factor of 7% as obtained from the CFA Emission Model, a flashoff reduction of 49% due to flowcoating, and a transfer efficiency of 100%.

ton resin VOC(HAP)/yr = max resin usage (lb/hr) * % flashoff from CFA table * (1 - flowcoat red.) * 8760 hr/yr * 1/2000 ton/lb * 3 booths

ton superlease (VOC)/yr = lb superlease/unit * unit/hr * %VOC * 8760 hr/yr * 1/2000 ton/lb * 3 booths

ton super blue (VOC)/yr = lb superlease/unit * unit/hr * %VOC * 8760 hr/yr * 1/2000 ton/lb * 3 booths

ton PM(PM10)/yr = max usage rate for each booth * (1 - wt% styrene monomer) * (1 - transfer efficiency) * 8760 hr/yr * 1/2000 ton/lb

a. Styrene (r) VOC/HAP Emissions:

240 lbr/hr * 0.07 (CFA Table % Flashoff) * flowcoat red. (1-0.49) * 8760 hr/yr * 1/2000 ton/lb * 3 booths = 112.6 ton VOC(HAP)/yr

b. Superlease (Sl) VOC Emissions:

0.12 lb Sl/unit * 0.99 (% VOC) * 1 unit/hr * 8760 hr/yr * 1/2000 ton/lb * 3 booths = 1.6 ton/yr

c. Super Blue (Sb) VOC Emissions:

0.018 lb Sb/unit * 0.05 (% VOC) * 1 unit/hr * 8760 hr/yr * 1/2000 ton/lb * 3 booths = 0.013 ton/yr

d. Uncontrolled PM(PM10) Emissions (Based on a transfer efficiency of 75%):

240 lb r/hr * (1 - 0.35) * (1 - 1.00) * 8760 hr/yr * 1/2000 ton/lb * 3 booths = 0.00 ton PM(PM10)/yr

2. Gelcoat Booth (G1) and Hand Roll-out Emissions:

The following calculations determine the emissions from the gelcoat booth and hand roll-out area based on a maximum gel usage rate of 63 lb gel/hr, 8760 hours per year, a gel styrene content of 36.8%, a styrene flashoff factor of 18.8% as obtained from the CFA Emission Model, and a transfer efficiency of 75%.

ton gel VOC(HAP)/yr = max resin usage (lb/hr) * % flashoff from CFA table * 8760 hr/yr * 1/2000 ton/lb
ton PM(PM10)/yr = max usage rate, lb/hr * (1 - wt% styrene monomer) * (1 - transfer efficiency) * 8760 hr/yr * 1/2000 ton/lb

a. Gel VOC/HAP Emissions:

63 lb gel/hr * 0.188 (CFA Table % Flashoff) * 8760 hr/yr * 1/2000 ton/lb = 51.9 ton/yr

b. PM(PM10) Emissions (uncontrolled and 326 IAC 6-3 allowable):

Uncontrolled Emissions:

63 lb gel/hr * (1 - 0.368) * (1 - 0.75) * 8760 hr/yr * 1/2000 ton/lb = 43.59 ton/yr

Controlled PM(PM10) Emissions (Dry Filters based on 95% control):

43.59 ton/yr (uncontrolled) * (1 - 0.95) = 2.18 ton/yr

3. Filament Winding Machine (FW4) Emissions:

The following calculations determine the filament winding machine emissions based on 8,760 hours of operation, a maximum styrene monomer content of 34.5%, maximum resin and superlease usages of 109.20 lb resin(r)/hr and 0.84 lb superlease(s)/hr, respectively, and a styrene flashoff factor of 6.6% as obtained from the CFA Emission Model.

ton resin VOC(HAP)/yr = max resin usage (lb/hr) * % flashoff from CFA table * 8760 hr/yr * 1/2000 ton/lb
ton superlease (VOC)/yr = lb superlease/hr * %VOC * 8760 hr/yr * 1/2000 ton/lb

a. Resin (r) VOC(HAP) Emissions:

109.20 lbr/hr * 0.066 (CFA Table % Flashoff) * 8760 hr/yr * 1/2000 ton/lb = 31.56 ton/yr

b. Superlease (Sl) VOC Emissions:

0.84 lbSl/hr * 0.99 (%VOC) * 8760 hr/yr * 1/2000 ton/lb = 3.64 ton/yr

c. PM(PM10) Emissions:

There are no PM(PM10) emissions for overspray because the fiberglass strands are dipped in resin bath and mold release is hand brushed onto the surface.

4. Filament Winding Machines (FWSH 1 - 6) Emissions:

The following calculations determine the filament winding machine emissions based on 8,760 hours of operation, maximum styrene monomer content of 35% for both the three filament spray guns and one portable spray applicator, styrene flashoff factors of 6.6% an 7.0% from the three filament spray guns and one portable spray applicator, respectively, as obtained from the CFA Emission Model, 95% transfer efficiency for the three filament spray guns, 75% transfer efficiency for the one portable spray gun, and 95% control from the dry filter systems of both the three filament spray guns and one portable spray applicator.

ton gel VOC(HAP)/yr = max resin usage (lb/hr) * % flashoff from CFA table * 8760 hr/yr * 1/2000 ton/lb
ton PM(PM10)/yr = max usage rate, lb/hr * (1 - wt% styrene monomer) * (1 - transfer efficiency) * 8760 hr/yr * 1/2000 ton/lb

a. Three Filament Spray Gun Resin (r) VOC(HAP) Emissions:

638.4 lbr/hr * 0.066 (CFA Table % Flashoff) * 8760 hr/yr * 1/2000 ton/lb = 184.55 ton/yr

b. One Portable Spray Applicator VOC(HAP) Emissions:

212.8 lbr/unit * 0.07 (CFA Table % Flashoff) * 1 unit/hr * 8760 hr/yr * 1/2000 ton/lb = 65.24 ton/yr

c. Three Filament Spray Gun PM(PM10) Emissions:

Uncontrolled PM(PM10) Emissions:

638.4 lbr/hr * (1 - 0.35) * (1 - 0.95) * 8760 hr/yr * 1/2000 ton/lb = 90.88 ton/yr

Controlled PM/PM10 Emissions (Dry Filters based on 95% control):

90.88 ton/yr (uncontrolled) * (1 - 0.95) = 4.54 ton/yr

d. One Portable Spray Gun PM(PM10) Emissions:

Uncontrolled PM(PM10) Emissions:

212.8 lbr/hr * (1 - 0.35) * (1 - 0.75) * 8760 hr/yr * 1/2000 ton/lb = 151.46 ton/yr

Controlled PM/PM10 Emissions (Dry Filters based on 95% control):

151.46 ton/yr (uncontrolled) * (1 - 0.95) = 7.57 ton/yr

5. Gelcoat Booth (FCG1) and Resin Flowcoat Booth (FCR1) Emissions:

The following calculations determine the gelcoat and resin flowcoat booth emissions based on 8760 hours of operation, maximum styrene monomer contents of 38% and 33% for the resin and gelcoat booths, respectively, maximum styrene and gelcoat maximum usage rates of 25 lb/hr and 43.05 lb/hr for the resin and gelcoat booths, respectively, 7% and 14.7% flashoff for the resin and gelcoat booths, respectively, emission factors from the CFA Emission Model, styrene and gel contents of 35% and 32.7%, respectively, 80% and 100% transfer efficiency for the gelcoat and resin booths, respectively, and 95% control for the gelcoat booth:

ton gel VOC(HAP)/yr = max resin usage (lb/hr) * % flashoff from CFA table * 8760 hr/yr * 1/2000 ton/lb
ton PM(PM10)/yr = max usage rate, lb/hr * (1 - wt% styrene monomer) * (1 - transfer efficiency) * 8760 hr/yr * 1/2000 ton/lb

a. Resin Flowcoat Booth VOC(HAP) Emissions:

25 lb resin/hr * 0.07 (CFA Table % Flashoff) * (1 - 0.48) (% red due to flowcoat) * 8760 hr/yr * 1/2000 ton/lb = 3.91 tons/yr

b. Gelcoat Booth VOC(HAP) Emissions:

43.05 lb gel/hr * 0.147 (CFA Table % Flashoff) * 8760 hr/yr * 1/2000 ton/lb = 27.72 ton/yr

c. Gel Coat Booth PM(PM10) Emissions:

Uncontrolled:

43.05 lb/hr * (1 - 0.35) * (1 - 0.80) * 8760 hr/yr * 1/2000 ton/lb = 25.27 ton/yr

Controlled:

25.27 ton/yr * (1 - 0.95) = 1.26 ton/yr

d. Resin Booth PM(PM10) Emissions:

Resin Booth Uncontrolled:

25 lb/hr * (1 - 0.38) * (1 - 1.00) * 8760 hr/yr * 1/2000 ton/lb = 0.00 ton/yr

5. Hand Grinder Emissions:

The following calculations determine the existing hand grinder emissions based on a maximum design rate of 2.08 ton/hr, a collected sample test (6.01 lb PM(PM10)/ton product, 8,760 hours per year, and a control efficiency of 99.8%.

Existing Grinder PM(PM10) Emissions:

Uncontrolled:

2.08 ton/hr * 6.01 lb PM(PM10)/ton * 8760 hr/yr * 1/2000 ton PM(PM10)/lb PM(PM10) = 54.8 ton/yr

Controlled:

54.8 ton/yr * (1-.998) = 0.11 ton/yr

326 IAC 6-3 Allowable Emissions:

E = [(4.1) * (P^0.67)] * 8760 hr/yr * 1/2000 ton/lb = [(4.1) * (2.08^0.67)] * 8760 hr/yr * 1/2000 ton/yr = 29.4 ton/yr (6.70 lb/hr)

Where: E = allowable emissions rate, lb/hr
P = process weight rate, 4160 lb/hr = 2.08 ton/hr

7. Pneumatic Shot Blasting Operation:

The following calculations determine the existing shot blasting operation based on the STAPPA/ALAPCO emissions factors, Page 3-14, Equation 3.1., and maximum operating parameters.

a. Existing Shot Blasting Operation PM(PM10) Emissions:

Uncontrolled:

FR = [(FR1) * (ID^2) * (p)] / [(ID1^2) * (p1)] = [(77) * (0.156)^2 * (168)] / [(0.125)^2 * (99)] = 196 lb/hr

Where: FR1 = flow rate, 77 lb/hr ID1 = nozzle diameter, 0.125 in.
P1 = media density, 99 lb/ft^3 ID = actual nozzle diameter, 0.156 in.
P = actual media density, 168 lb/ft^3

PM = 27 lb/1000 lb shot (AP-42, 13.2.6) * 196 lb shot/hr * 8760 hr/yr * 1/2000 ton/lb = 23.2 ton/yr (5.29 lb/hr)
PM10 = 13 lb/1000 lb shot (AP-42, 13.2.6)

= 13 lb/1000 lb shot * 196 lb shot/hr * 8760 hr/yr * 1/2000 ton/lb = 11.2 ton/yr (2.56 lb/hr)

Controlled: PM = 23.2 ton/yr * (1-0.998) = 0.05 ton/yr PM10 = 11.2 ton/yr * (1-0.998) = 0.02 ton/yr

326 IAC 6-3 Allowable Emissions:

E = [(4.1) * (P^0.67)] * 8760 hr/yr * 1/2000 ton/lb = [(4.1) * (0.518^0.67)] * 8760 hr/yr * 1/2000 ton/yr = 11.56 ton/yr (2.6 lb/hr)

Where: E = allowable emissions rate, lb/hr P = process weight rate, 0.518 ton/hr

8. Surface Coating Operation (PB1) Emissions:

The following calculations determine the paint booth emissions based on 8,760 hours of operation, worst case coatings, maximum production rates, and emission data provided in the MSDS sheets, and a transfer efficiency of 50% and solids content of 54.8% (45.2% water and organics)for the PM emission calculations.

a. VOC Emissions:

7.67 lb/gal * 0.452 (%VOC) * 0.11 gal/lid * 6 lids/hr * 8760 hr/yr * 1/2000 ton/lb = 10.02 ton/yr

b. HAP Emissions (Ethyl Benzene(EB)):

7.67 lb/gal * 0.02 (%EB) * 0.11 gal/unit * 6 unit/hr * 8760 hr/yr * 1/2000 ton/lb = 0.44 ton/yr

c. PM (PM10) Emissions:

Uncontrolled:

7.67 lb/gal * (1 - 0.452) * 0.11 gal/unit * 6 unit/hr * 8760 hr/yr * 1/2000 ton/lb = 6.09 ton/yr

326 IAC 6-3-2 Allowable Emissions:

E = [(4.1) * (P^0.67)] * 8760 hr/yr * 1/2000 ton/lb = [(4.1) * (2.14^0.67)] * 8760 hr/yr * 1/2000 ton/yr = 29.90 ton/yr (7.37 lb/hr)

Where: E = allowable emissions rate, lb/hr
P = process weight rate, 2.14 ton/hr

9. Hand Sander and Polisher (HT1) Emissions:

The following calculations determine the existing hand grinder emissions based on a maximum design rate of 2.08 ton/hr, a collected sample test (0.30 lb PM(PM10)/ton product), 8,760 hours per year, and a control efficiency of 99.8%.

Existing Sander and Polisher PM(PM10) Emissions:

Uncontrolled:

2.08 ton/hr * 0.30 lb PM(PM10)/ton * 8760 hr/yr * 1/2000 ton PM(PM10)/lb PM(PM10) = 2.73 ton/yr

Controlled:

2.73 ton/yr * (1-.998) = 0.01 ton/yr

326 IAC 6-3 Allowable Emissions:

E = [(4.1) * (P^0.67)] * 8760 hr/yr * 1/2000 ton/lb = [(4.1) * (2.08^0.67)] * 8760 hr/yr * 1/2000 ton/yr = 29.4 ton/yr (6.70 lb/hr)

Where: E = allowable emissions rate, lb/hr
P = process weight rate, 4160 lb/hr = 2.08 ton/hr

10. Pulverizor (RP1) and Regrinder (RP2) Emissions:

The pulverizor and regrinder emissions are recovered. Thus the unrestricted potential to emit. The following calculations determine the pulverizor and regrinder emissions based on emissions after controls, 8760 hours/yr, emission factors based on a mass balance study, and a control efficiency of 99.9%.

a. Pulverizor PM(PM10) Emissions:

Controlled:

0.251 ton PM(PM10)/hr * (1 - 0.999) (8760 hr/yr) = 2.2 ton/yr (0.50 lb/hr)

326 IAC 6-3 Allowable Emissions:

E = [(4.1) * (P^0.67)] * 8760 hr/yr * 1/2000 ton/lb = [(4.1) * (0.251^0.67)] * 8760 hr/yr * 1/2000 ton/yr = 7.11 ton/yr (1.62 lb/hr)

Where: E = allowable emissions rate, lb/hr
P = process weight rate, 4160 lb/hr = 0.251 ton/hr

b. Regrind PM(PM10) Emissions:

Controlled:

0.025 ton PM(PM10)/hr * (1 - 0.999) (8760 hr/yr) = 0.22 ton/yr (0.05 lb/hr)

326 IAC 6-3 Allowable Emissions:

E = [(4.1) * (P^0.67)] * 8760 hr/yr * 1/2000 ton/lb = [(4.1) * (0.025^0.67)] * 8760 hr/yr * 1/2000 ton/yr = 1.52 ton/yr (0.35 lb/hr)

Where: E = allowable emissions rate, lb/hr
P = process weight rate, 4160 lb/hr = 0.025 ton/hr

11. Primer and Adhesives Applicator Emissions:

The following calculations determine the primer and adhesives applicator emissions based on worst case combinations, maximum usage rate, 8760 hours of operation, emissions before controls and information as obtain from the MSDS sheets.

a. Hand Applied Cleaning Primer and Plastic Pipe Adhesive VOC Emissions:

Primer: 6.58 lb VOC/gal * (1.0 - 0.12% acetone) * (0.01 gal/unit) * 2.35 unit/hr * 8760 hr/yr * 1/2000 ton/lb = 0.60 ton/yr

Medium Cement: 7.83 lb VOC/gal * 0.89 (%VOC) * (0.02 gal/unit) * 2.15 unit/hr * 8760 hr/yr * 1/2000 ton/lb = 1.31 ton/yr

Heavy Duty Cement:

7.83 lb VOC/gal * (0.85 - 0.12% acetone) * (0.004 gal/unit) * 2.35 unit/hr * 8760 hr/yr * 1/2000 ton/lb = 0.24 ton/yr

b. Hand Applied Cleaning Primer and Plastic Pipe Adhesive HAP Emissions:

Primer (MEK): 6.58 lb/gal * 0.80 (%MEK) * 0.01 gal/unit * 2.35 unit/hr * 8760 hr/yr * 1/2000 ton/lb = 0.53 ton/yr

Medium Cement (MEK): 7.83 lb/gal * 0.40 (%MEK) * 0.02 gal/unit * 2.15 unit/hr * 8760 hr/yr * 1/2000 ton/lb = 0.59 ton/yr

Heavy Cement: 7.83 lb/gal * 0.05 (%HAP) * 0.004 gal/unit * 2.35 unit/hr * 8760 hr/yr * 1/2000 ton/lb = 0.02 ton/yr

1. Source Combustion Emissions:

The following is a summary of the source combustion emissions as determined in the attached standard combustion spreadsheets:

Unit	PM	PM10	SO2	NOx	VOC	CO
RO1	0.2	0.2	neg.	2.6	0.1	2.2
RO2	0.3	0.3	neg.	3.5	0.2	2.9
RO3	0.3	0.3	neg.	3.5	0.2	2.9
RO4	0.2	0.2	neg.	2.2	0.1	1.8
RO5	0.1	0.1	neg.	1.8	0.1	1.5
RO6	neg.	neg.	neg.	0.4	neg.	0.4
AW1	0.1	0.1	neg.	0.9	neg.	0.7
AW2	0.1	0.1	neg.	1.3	0.1	1.1
AW3	0.1	0.1	neg.	1.3	0.1	1.1
H1	neg.	neg.	neg.	0.1	neg.	0.1
H2	neg.	neg.	neg.	0.1	neg.	0.1
RH1	neg.	neg.	neg.	0.1	neg.	0.1
RH2	neg.	neg.	neg.	0.1	neg.	0.1

Total Potential and Allowable Emissions

Indiana Permit Allowable Emissions Definition (after compliance with applicable rules, based on 8,760 hours of operation per year at rated capacity):

Pollutant	Allowable Emissions (tons/year)	Potential Emissions (tons/year)
Particulate Matter (PM)	364.80	401.84
Particulate Matter (PM10)	364.44	389.84
Sulfur Dioxide (SO_2)	neg.	neg.
Volatile Organic Compounds (VOC)	496.94	496.94
Carbon Monoxide (CO)	15.00	15.00
Nitrogen Oxides (NO_x)	17.90	17.90
Single Hazardous Air Pollutant (HAP)	490.76	490.76
Combination of HAPs	496.94	496.94

(a) Allowable emissions are determined from the applicability of rule 326 IAC 6-3 and potential emissions before controls are used to determine the source adjusted allowable emissions.

(b) Allowable emissions (as defined in the Indiana Rule) of particulate matter (PM), PM10, and volatile organic compounds (VOC) are greater than 25 tons per year. Therefore, pursuant to 326 IAC 2-1, Sections 1 and 3, a construction permit is required.

(c) Allowable emissions (as defined in the Indiana Rule) of a single hazardous air pollutant (HAP) are greater than 10 tons per year and/or the allowable emissions of any combination of the HAPs are greater than 25 tons per year. Therefore, pursuant to 326 IAC 2-1, a construction permit is required.

County Attainment Status

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

(b) Marshall County has also 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

Repermitted Source PSD Definition (emissions after controls, based on 8,760 hours of operation per year at rated capacity and/ or as otherwise limited):

Pollutant	Emissions (ton/yr)
PM	249.00
PM10	249.00
SO_2	neg.
VOC	249.00
CO	15.00
NO_x	17.90
Single HAP	<100.00
Combination HAPs	<100.00

(a) This repermitted source is **not** a major stationary source because no attainment pollutant is emitted at a rate of 250 tons per year or greater and it is not in one of the 28 listed source categories. Therefore, pursuant to 326 IAC 2-2, and 40 CFR 52.21, the PSD requirements do not apply.

(b) The particulate matter (PM) emissions are limited to 249 tons/yr, therefore the PSD requirements under 326 IAC 2-2, and 40 CFR 52.21 do not apply.

(c) The source volatile organic compound (VOC) emissions are limited to 249 tons/yr, less the potential combustion VOC emissions of 2 ton VOC/yr, for an adjusted source VOC limit of 247 ton/yr, with the individual process emissions being limited as follows:

(1) the VOC emissions from the fiberglass layup process units (resin flowcoat booths (CP1, CP2, CP3), gelcoat booth (G1), filament winding machine (FW4), six filament winding mandrels (FWSH1 - 6), hand tooling and finishing area (HT1), fitting installation area (FT1), gelcoat booth (FCG1), and resin flowcoat booth (FCR1)) shall be limited to less than 100 tons per year as required pursuant to 326 IAC 8-1-6 (326 IAC 326 IAC 2-1-3.4); and
(2) the VOC emissions from paintbooth PB1 shall be limited to 147 tons per year.

Therefore, the PSD requirements under 326 IAC 2-2, and 40 CFR 52.21 do not apply.

(c) The combined HAP emissions (single HAP (styrene) emissions) are limited to less than 100 tons per year as part of the 326 IAC 8-1-6 Best Available Control Technology (BACT) determination.

Part 70 Permit Determination

326 IAC 2-7 (Part 70 Permit Program)

This source is subject to the Part 70 Permit requirements because the potential to emit (PTE) of:

(a) at least one of the criteria pollutant is greater than or equal to 100 tons per year,
(b) a single hazardous air pollutant (HAP) is greater than or equal to 10 tons per year, or
(c) any combination of HAPs is greater than or equal to 25 tons/year.

This existing source has submitted their Part 70 application (T-099-7547-00043). The equipment being reviewed under this permit shall be incorporated in the submitted Part 70 application.

Federal Rule Applicability

There are no New Source Performance Standards (326 IAC 12) and 40 CFR Part 60 applicable to this facility.

There are no National Emissions Standards for Hazardous Air Pollutants (326 IAC 20) and 40 CFR Part 63 applicable to this facility.

State Rule Applicability

326 IAC 2-6 (Emission Reporting)

This facility is subject to 326 IAC 2-6 (Emission Reporting), because the source emits more than 100 tons/yr of VOC. Pursuant to this rule, the owner/operator of this facility must annually submit an emission statement of the facility. 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 (Opacity Limitations), except as provided in 326 IAC 5-1-3 (Temporary Exemptions), opacity shall meet the following, unless otherwise stated in this permit:

(a) Opacity shall not exceed an average of forty percent (40%) in any one (1) six (6) minute averaging period as determined in 326 IAC 5-1-4.

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

326 IAC 6-3-2 (Paint Booth PB1)

Pursuant to 326 IAC 6-3-2, the allowable particulate matter (PM) emissions from the Paint Booth PB1 shall be limited by the following:

Interpolation and extrapolation of the data for the process weight rate up to sixty thousand (60,000) pounds per hour shall be accomplished by use of the equation:

$E = 4.10\ P^{0.67}$

where:

E = rate of emission in lb/hr, and
P = process weight rate in ton/hr

The dry filters shall be in operation at all times paint booth PB1 is in operation.

326 IAC 6-3-2 (Fiberglass Layup Overspray)

Pursuant to 326 IAC 6-3-2, the allowable particulate matter (PM) emissions from Gelcoat Booth (G1), Mandrals (FSHW1, FSHW2, FSHW3, FSHW4, FSHW5, and FSHW6), portable resin spray unit (CPC4), and gelcoat booth (FCG1), shall be limited by the following:

Interpolation and extrapolation of the data for the process weight rate up to sixty thousand (60,000) pounds per hour shall be accomplished by use of the equation:

$E = 4.10\ P^{0.67}$

where:

E = rate of emission in lb/hr, and
P = process weight rate in ton/hr

The dry filters shall be in operation at all times above listed equipment is in operation.

326 IAC 6-3-2 (Fiberglass Layup Process Operations)

Pursuant to 326 IAC 6-3-2, the allowable particulate matter (PM) emissions from the applicable source PM generating equipment shall be limited by the following equation:

$E = 4.10\ P^{0.67}$

where:

E = rate of emission in lb/hr, and
P = process weight rate (PWR) in ton/hr

The equipment shall be limited as follows based on the 326 IAC 6-3-2 allowable emission rates determined in the above emission calculations:

Facility	P WR (ton/hr)	PM Emissions (lb/hr)	326 IAC 6-3 PM Limit (lb/hr)
Hand Grinding Area (CB1)	2.08	0.03	6.70
Shot Blasting Area (CB2)	0.518	0.01	2.64
Pulverizor (RP1)	0.251	0.50	1.62
Regrinder (RP2)	0.025	-	0.35
Hand Tool Area (HT1)	2.08	0.002	6.70

Based on the emissions estimated in the Emission Calculations section, no PM emissions exceed their respective allowable rates.

The respective control devices shall be in operation at all times the applicable facilities are in operation, in order to comply with this limit.

326 IAC 8-1-6 [326 IAC 2-1-3.4] (Best Available Control Technology)

Pursuant to 326 IAC 8-1-6, the fiberglass parts manufacturing operation is subject to the requirements of 326 IAC 8-1-6, which requires that the Best Available Control Technology (BACT) be used to control VOC emissions. Meeting the requirements 326 IAC 2-1-3.4 (New Source Toxics Control) shall satisfy the BACT requirements of 326 IAC 8-1-6 because the following requirements are determined to be the presumptive MACT for this source type.

Pursuant to the MACT determination under 326 IAC 2-1-3.4, operating conditions for the fiberglass parts manufacturing operation shall be the following:

(a) Use of resins and gel coats shall be limited such that the potential to emit (PTE) volatile organic HAP from resins and gel coats only shall be less than 100 tons per twelve (12) consecutive months. Compliance with this limit shall be determined based upon the following criteria:

(1) Monthly usage by weight, monomer content, method of application, and other emission reduction techniques for each gel coat and resin shall be recorded. Volatile organic HAP emissions shall be calculated by multiplying the usage of each gel coat and resin by the emission factor that is appropriate for the monomer content, method of application, and other emission reduction techniques for each gel coat and resin, and summing the emissions for all gel coats and resins. Emission factors shall be obtained from the reference approved by IDEM, OAM.

(2) Until such time that new emissions information is made available by U.S. EPA in its AP-42 document or other U.S. EPA-approved form, emission factors shall be taken from the following reference approved by IDEM, OAM: "CFA Emission Models for the Reinforced Plastics Industries", Composites Fabricators Association, February 28, 1998, and shall not exceed 32.3% styrene emitted per weight of gel coat applied and 17.7% styrene emitted per weight of resin applied. For the purposes of these emission calculations, monomer in resins and gel coats that is not styrene shall be considered as styrene on an equivalent weight basis.

(b) Resins and gel coats used, including filled resins and tooling resins and gel coats, shall be limited to maximum monomer contents of 35 percent (35%) by weight for resins, 37 percent (37%) by weight for gel coats or their equivalent on an emissions mass basis. Monomer contents shall be calculated on a neat basis, i.e., excluding any filler. Compliance with these monomer content limits shall be demonstrated on a monthly basis.

The use of resins with monomer contents lower than 35%, gel coats with monomer contents lower than 37%, and/or additional emission reduction techniques approved by IDEM, OAM, may be used to offset the use of resins with monomer contents higher than 35%, and/or gel coats with monomer contents higher than 37%. Examples of other techniques include, but are not limited to, lower monomer content resins and gel coats, closed molding, vapor suppression, vacuum bagging, controlled spraying, or installing a control device with an overall reduction efficiency of 95%. This is allowed to meet the monomer content limits for resins and gel coats, and shall be calculated on an equivalent emissions mass basis as shown below:

(Emissions from >35% resin or >37% gel coat) - (Emissions from 35% resin or 37% gel coat) # (Emissions from 35% resin or 37% gel coat) - (Emissions from <35% resin, <37% gel coat, and/or other emission reduction techniques).

Where: Emissions, lb or ton = M (mass of resin or gel coat used, lb or ton) * EF (Monomer emission factor for resin or gel coat used, %);

EF, Monomer emission factor = emission factor, expressed as % styrene emitted per weight of resin applied, which is indicated by the monomer content, method of application, and other emission reduction techniques for each gel coat and resin used.

(c) Flow coaters, a type of non-spray application technology of a design and specifications to be approved by IDEM, OAM, shall be used in the following manner:

(1) to apply 50% of all neat resins within 6 months of commencement of operation.

(2) to apply 100% of all neat resins used within 1 year of commencement of operation.

If after 1 year of operation it is not possible to apply a portion of neat resins with flow coaters, equivalent emissions reductions must be obtained via use of other techniques, such as those listed in (b) above, elsewhere in the process.

(d) Optimized spray techniques according to a manner approved by IDEM shall be used for gel coats and filled resins (where fillers are required for corrosion or fire retardant purposes) at all times. Optimized spray techniques include, but are not limited to, the use of airless, air-assisted airless, high volume low pressure (HVLP), or other spray applicators demonstrated to the satisfaction of IDEM, OAM, to be equivalent to the spray applicators listed above.

HVLP spray is the technology used to apply material to substrate by means of application equipment that operates between one-tenth (0.1) and ten (10) pounds per square inch gauge (psig) air pressure measured dynamically at the center of the air cap and at the air horns of the spray system.

(e) The listed work practices shall be followed:

(1) To the extent possible, a non-VOC, non-HAP solvent shall be used for cleanup.

(2) Cleanup solvent containers used to transport solvent from drums to work stations shall be closed containers having soft gasketed spring-loaded closures.

(3) Cleanup rags saturated with solvent shall be stored, transported, and disposed of in containers that are closed tightly.

(4) The spray guns used shall be the type that can be cleaned without the need for spraying the solvent into the air.

(5) All solvent sprayed during cleanup or resin changes shall be directed into containers. Such containers shall be closed as soon as solvent spraying is complete. The waste solvent shall be handled in such a manner that evaporation is minimized, and managed in accordance with applicable solid or hazardous waste requirements.

(6) Storage containers used to store VOC- and/or HAP- containing materials shall be kept covered when not in use.

326 IAC 1-6-3 Preventive Maintenance Plan

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

Compliance Determination Requirements

326 IAC 3-6 Testing Requirements

The Permittee is not required to test this facility by this permit. However, IDEM may require compliance testing at any specific time when necessary to determine if the facility is in compliance. If testing is required by IDEM, compliance with the less than 100 ton/yr volatile organic compound limit shall be determined by a performance test conducted in accordance with Section C - Performance Testing.

Volatile Organic Compounds (VOC)

Compliance with the monomer content and usage limitations shall be determined pursuant to 326 IAC 8-1-4(a)(3) and 326 IAC 8-1-2(a) using formulation data supplied by the manufacturer. However, IDEM, OAM, reserves the authority to determine compliance using Method 24 in conjunction with the analytical procedures specified in 326 IAC 8-1-4.

Particulate Matter (PM)

The dry filters for particulate matter control shall be in operation at all times when the fiberglass facilities are in operation.

Monitoring

(a) Daily inspections shall be performed to verify the placement, integrity and particle loading of the filters. To monitor the performance of the dry filters, weekly observations shall be made of the overspray from the fiberglass facilities' stack while one or more of the facilities are in operation. The Compliance Response Plan shall be followed whenever a condition exists which should result in a response step. Failure to take response steps in accordance with Section C - Compliance Monitoring Plan - Failure to Take Response Steps, shall be considered a violation of this permit.

(b) Monthly inspections shall be performed of the particulate emissions from the stack and the presence of overspray on the rooftops and the nearby ground. The Compliance Response Plan for this unit shall contain troubleshooting contingency and response steps for when a noticeable change in overspray emission, or evidence of overspray emission is observed. The Compliance Response Plan shall be followed whenever a condition exists which should result in a response step. Failure to take response steps in accordance with Section C - Compliance Monitoring Plan - Failure to Take Response Steps, shall be considered a violation of this permit.

(c) Additional inspections and preventive measures shall be performed as prescribed in the Preventive Maintenance Plan.

Visible Emissions Notations

(a) Daily visible emission notations of the fiberglass facilities' stack exhaust shall be performed during normal daylight operations when exhausting to the atmosphere. A trained employee shall record whether emissions are normal or abnormal.

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

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

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

(e) The Compliance Response Plan for this unit shall contain troubleshooting contingency and response steps for when an abnormal emission is observed.

Baghouse Inspections

An inspection shall be performed each calender quarter of all bags controlling the hand grinding area (CB1), the shot blast area (CB2), and the hand tooling area (HT1) when venting to the atmosphere. A baghouse inspection shall be performed within three months of redirecting vents to the atmosphere and every three months thereafter. Inspections are optional when venting indoors. All defective bags shall be replaced.

Broken Bag or Failure Detection

In the event that bag failure has been observed:

(a) The affected compartments will be shut down immediately until the failed units have been repaired or replaced. For single compartment baghouses, failed units and the associated process will be shut down immediately until the failed units have been repaired or replaced.

(b) Within eight (8) hours of the determination of failure, response steps according to the timetable described in the Compliance Response Plan shall be initiated, For any failure with corresponding response steps and timetable not described in the Compliance Response Plan, response steps shall be devised within eight (8) hours of discovery of the failure and shall include a timetable for completion

Record Keeping and Reporting Requirements

Record Keeping Requirements

(a) To document compliance with the limitations, the Permittee shall maintain records in accordance with (1) through (4) below. Records maintained for (1) through (4) shall be taken monthly and shall be complete and sufficient to establish compliance with the volatile organic HAP emission limit.

(1) The usage by weight and monomer content of each resin and gel coat. 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) Method of application and other emission reduction techniques for each resin and gel coat used;

(4) The calculated total volatile organic HAP emissions from resin and gel coat use for each month.

(b) To document compliance with the testing and visible emission notation requirements, the Permittee shall maintain a log of daily overspray observations, daily and weekly inspections, and those additional inspections prescribed by the Preventive Maintenance Plan.

(c) To document compliance with the record keeping requirements, the Permittee shall maintain records of daily visible emission notations of the fiberglass operations' stack exhaust.

(d) All records shall be maintained in accordance with Section C - General Record Keeping Requirements, of this permit.

Reporting Requirements

A quarterly summary of the information to document compliance with the VOC(HAP) limitations shall be submitted to the addresses 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.

326 IAC 8-2-9 (Miscellaneous Metal Coating)

Pursuant to 326 IAC 8-2-9 (Miscellaneous Metal Coating Operations), the volatile organic compound (VOC) content of coating delivered to the applicator at the spray booth shall be limited to 3.5 pounds of VOCs per gallon of coating less water, for extreme performance coatings.

Solvent sprayed from application equipment during cleanup or color changes shall be directed into containers. Such containers shall be closed as soon as such solvent spraying is complete, and the waste solvent shall be disposed of in such a manner that evaporation is minimized.

Based on the MSDS submitted by the source and calculations made, the spray booth is in compliance with this requirement.

Air Toxic Emissions

Indiana presently requests applicants to provide information on emissions of the 187 hazardous air pollutants set out in the Clean Air Act Amendments of 1990. These pollutants are either carcinogenic or otherwise considered toxic and are commonly used by industries. They are listed as air toxics on the Office of Air Management (OAM) Construction Permit Application Form Y.

(a) This proposed source will emit levels of air toxics greater than those that constitute major source applicability according to Section 112 of the Clean Air Act. The concentrations of these air toxics were modeled and found to be (in worst case possible) as follows: The concentrations of these air toxics were compared to the Permissible Exposure Limits (PEL) developed by the Occupational Safety and Health Administration (OSHA). The Office of Air Management (OAM) does not have at this time any specific statutory or regulatory authority over these substances.

(b) See attached spreadsheets for detailed air toxic calculations.

Conclusion

The construction of this fiberglass parts manufacturing operation will be subject to the conditions of the attached proposed **Construction Permit No. CP-099-10311-00043.**

Appendix A: Emissions Calculations
Natural Gas Combustion Only
MM BTU/HR <100
Small Industrial Boiler

Company Name: **AK Industries, Inc.**
Address City IN Zip: **2055 Pidco Dr., Plymouth, IN 46563**
CP: **099-10311**
Plt ID: **099-00043**
Reviewer: SDF
Date: 01-12-99

Heat Input Capacity MMBtu/hr	Potential Throughput MMCF/yr
6.0	52.6

Pollutant

	PM	PM10	SO2	NOx	VOC	CO
Emission Factor in lb/MMCF	7.6	7.6	0.6	100.0 *see below	5.5	84.0
Potential Emission in tons/yr	0.2	0.2	0.0	2.6	0.1	2.2

Methodology

All emission factors are based on normal firing.
MMBtu = 1,000,000 Btu
MMCF = 1,000,000 Cubic Feet of Gas
Emission Factors for NOx: Uncontrolled = 100, Low NOx Burner = 50, Low NOx Burners/Flue gas recirculation = 32
PM emission factors are condensable and filterable.

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
See page 2 for HAPs emissions calculations.

Appendix A: Emissions Calculations
Natural Gas Combustion Only
MM BTU/HR <100
Small Industrial Boiler
HAPs Emissions

Company Name:
Address City IN Zip:
CP:
Plt ID:
Reviewer:
Date:

HAPs - Organics

	Benzene	Dichlorobenzene	Formaldehyde	Hexane	Toluene
Emission Factor in lb/MMcf	2.1E-03	1.2E-03	7.5E-02	1.8E+00	3.4E-03
Potential Emission in tons/yr	0.0	0.0	0.0	0.0	0.0

HAPs - Metals

	Lead	Cadmium	Chromium	Manganese	Nickel
Emission Factor in lb/MMcf	5.0E-04	1.1E-03	1.4E-03	3.8E-04	2.1E-03
Potential Emission in tons/yr	0.0	0.0	0.0	0.0	0.0

Methodology is the same as page 1.

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

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Natural Gas Combustion Only
MM BTU/HR <100
Small Industrial Boiler

Company Name: **AK Industries, Inc.**
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Plt ID: **099-00043**
Reviewer: SDF
Date: 01-12-99

Heat Input Capacity MMBtu/hr	Potential Throughput MMCF/yr
8.0	70.1

	Pollutant					
	PM	PM10	SO2	NOx	VOC	CO
Emission Factor in lb/MMCF	7.6	7.6	0.6	100.0 *see below	5.5	84.0
Potential Emission in tons/yr	0.3	0.3	0.0	3.5	0.2	2.9

Methodology

All emission factors are based on normal firing.
MMBtu = 1,000,000 Btu
MMCF = 1,000,000 Cubic Feet of Gas
Emission Factors for NOx: Uncontrolled = 100, Low NOx Burner = 50, Low NOx Burners/Flue gas recirculation = 32
PM emission factors are condensable and filterable.

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
See page 2 for HAPs emissions calculations.

Appendix A: Emissions Calculations
Natural Gas Combustion Only
MM BTU/HR <100
Small Industrial Boiler
HAPs Emissions

Company Name:
Address City IN Zip:
CP:
Plt ID:
Reviewer:
Date:

HAPs - Organics

	Benzene	Dichlorobenzene	Formaldehyde	Hexane	Toluene
Emission Factor in lb/MMcf	2.1E-03	1.2E-03	7.5E-02	1.8E+00	3.4E-03
Potential Emission in tons/yr	0.0	0.0	0.0	0.1	0.0

HAPs - Metals

	Lead	Cadmium	Chromium	Manganese	Nickel
Emission Factor in lb/MMcf	5.0E-04	1.1E-03	1.4E-03	3.8E-04	2.1E-03
Potential Emission in tons/yr	0.0	0.0	0.0	0.0	0.0

Methodology is the same as page 1.

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

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Natural Gas Combustion Only
MM BTU/HR <100
Small Industrial Boiler

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Reviewer: SDF
Date: 01-12-99

Heat Input Capacity MMBtu/hr	Potential Throughput MMCF/yr
8.0	70.1

Pollutant

	PM	PM10	SO2	NOx	VOC	CO
Emission Factor in lb/MMCF	7.6	7.6	0.6	100.0 *see below	5.5	84.0
Potential Emission in tons/yr	0.3	0.3	0.0	3.5	0.2	2.9

Methodology

All emission factors are based on normal firing.
MMBtu = 1,000,000 Btu
MMCF = 1,000,000 Cubic Feet of Gas
Emission Factors for NOx: Uncontrolled = 100, Low NOx Burner = 50, Low NOx Burners/Flue gas recirculation = 32
PM emission factors are condensable and filterable.

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
See page 2 for HAPs emissions calculations.

Appendix A: Emissions Calculations
Natural Gas Combustion Only
MM BTU/HR <100
Small Industrial Boiler
HAPs Emissions

Company Name:
Address City IN Zip:
CP:
Plt ID:
Reviewer:
Date:

HAPs - Organics

	Benzene	Dichlorobenzene	Formaldehyde	Hexane	Toluene
Emission Factor in lb/MMcf	2.1E-03	1.2E-03	7.5E-02	1.8E+00	3.4E-03
Potential Emission in tons/yr	0.0	0.0	0.0	0.1	0.0

HAPs - Metals

	Lead	Cadmium	Chromium	Manganese	Nickel
Emission Factor in lb/MMcf	5.0E-04	1.1E-03	1.4E-03	3.8E-04	2.1E-03
Potential Emission in tons/yr	0.0	0.0	0.0	0.0	0.0

Methodology is the same as page 1.

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

Appendix A: Emissions Calculations
Natural Gas Combustion Only
MM BTU/HR <100
Small Industrial Boiler

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Reviewer: SDF
Date: 01-12-99

Heat Input Capacity MMBtu/hr	Potential Throughput MMCF/yr
5.0	43.8

Pollutant

	PM	PM10	SO2	NOx	VOC	CO
Emission Factor in lb/MMCF	7.6	7.6	0.6	100.0 *see below	5.5	84.0
Potential Emission in tons/yr	0.2	0.2	0.0	2.2	0.1	1.8

Methodology

All emission factors are based on normal firing.
MMBtu = 1,000,000 Btu
MMCF = 1,000,000 Cubic Feet of Gas
Emission Factors for NOx: Uncontrolled = 100, Low NOx Burner = 50, Low NOx Burners/Flue gas recirculation = 32
PM emission factors are condensable and filterable.

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
See page 2 for HAPs emissions calculations.

Appendix A: Emissions Calculations
Natural Gas Combustion Only
MM BTU/HR <100
Small Industrial Boiler
HAPs Emissions

Company Name:
Address City IN Zip:
CP:
Plt ID:
Reviewer:
Date:

HAPs - Organics

	Benzene	Dichlorobenzene	Formaldehyde	Hexane	Toluene
Emission Factor in lb/MMcf	2.1E-03	1.2E-03	7.5E-02	1.8E+00	3.4E-03
Potential Emission in tons/yr	0.0	0.0	0.0	0.0	0.0

HAPs - Metals

	Lead	Cadmium	Chromium	Manganese	Nickel
Emission Factor in lb/MMcf	5.0E-04	1.1E-03	1.4E-03	3.8E-04	2.1E-03
Potential Emission in tons/yr	0.0	0.0	0.0	0.0	0.0

Methodology is the same as page 1.

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

Appendix A: Emissions Calculations
Natural Gas Combustion Only
MM BTU/HR <100
Small Industrial Boiler

Company Name: **AK Industries, Inc.**
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CP: **099-10311**
Plt ID: **099-00043**
Reviewer: SDF
Date: 01-12-99

Heat Input Capacity MMBtu/hr	Potential Throughput MMCF/yr
4.0	35.0

Pollutant

	PM	PM10	SO2	NOx	VOC	CO
Emission Factor in lb/MMCF	7.6	7.6	0.6	100.0 *see below	5.5	84.0
Potential Emission in tons/yr	0.1	0.1	0.0	1.8	0.1	1.5

Methodology

All emission factors are based on normal firing.
MMBtu = 1,000,000 Btu
MMCF = 1,000,000 Cubic Feet of Gas
Emission Factors for NOx: Uncontrolled = 100, Low NOx Burner = 50, Low NOx Burners/Flue gas recirculation = 32
PM emission factors are condensable and filterable.

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

See page 2 for HAPs emissions calculations.

Appendix A: Emissions Calculations
Natural Gas Combustion Only
MM BTU/HR <100
Small Industrial Boiler
HAPs Emissions

Company Name:
Address City IN Zip:
CP:
Plt ID:
Reviewer:
Date:

HAPs - Organics

	Benzene	Dichlorobenzene	Formaldehyde	Hexane	Toluene
Emission Factor in lb/MMcf	2.1E-03	1.2E-03	7.5E-02	1.8E+00	3.4E-03
Potential Emission in tons/yr	0.0	0.0	0.0	0.0	0.0

HAPs - Metals

	Lead	Cadmium	Chromium	Manganese	Nickel
Emission Factor in lb/MMcf	5.0E-04	1.1E-03	1.4E-03	3.8E-04	2.1E-03
Potential Emission in tons/yr	0.0	0.0	0.0	0.0	0.0

Methodology is the same as page 1.

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

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Natural Gas Combustion Only
MM BTU/HR <100
Small Industrial Boiler

Company Name: **AK Industries, Inc.**
Address City IN Zip: **2055 Pidco Dr., Plymouth, IN 46563**
CP: **099-10311**
Plt ID: **099-00043**
Reviewer: SDF
Date: -111

Heat Input Capacity MMBtu/hr	Potential Throughput MMCF/yr
1.0	8.8

Pollutant

	PM	PM10	SO2	NOx	VOC	CO
Emission Factor in lb/MMCF	7.6	7.6	0.6	100.0 *see below	5.5	84.0
Potential Emission in tons/yr	0.0	0.0	0.0	0.4	0.0	0.4

Methodology

All emission factors are based on normal firing.
MMBtu = 1,000,000 Btu
MMCF = 1,000,000 Cubic Feet of Gas
Emission Factors for NOx: Uncontrolled = 100, Low NOx Burner = 50, Low NOx Burners/Flue gas recirculation = 32
PM emission factors are condensable and filterable.

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
See page 2 for HAPs emissions calculations.

Appendix A: Emissions Calculations
Natural Gas Combustion Only
MM BTU/HR <100
Small Industrial Boiler
HAPs Emissions

Company Name:
Address City IN Zip:
CP:
Plt ID:
Reviewer:
Date:

HAPs - Organics

	Benzene	Dichlorobenzene	Formaldehyde	Hexane	Toluene
Emission Factor in lb/MMcf	2.1E-03	1.2E-03	7.5E-02	1.8E+00	3.4E-03
Potential Emission in tons/yr	0.0	0.0	0.0	0.0	0.0

HAPs - Metals

	Lead	Cadmium	Chromium	Manganese	Nickel
Emission Factor in lb/MMcf	5.0E-04	1.1E-03	1.4E-03	3.8E-04	2.1E-03
Potential Emission in tons/yr	0.0	0.0	0.0	0.0	0.0

Methodology is the same as page 1.

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

Appendix A: Emissions Calculations
Natural Gas Combustion Only
MM BTU/HR <100
Small Industrial Boiler

Company Name: **AK Industries, Inc.**
Address City IN Zip: **2055 Pidco Dr., Plymouth, IN 46563**
CP: **099-10311**
Plt ID: **099-00043**
Reviewer: SDF
Date: 01-12-99

Heat Input Capacity MMBtu/hr	Potential Throughput MMCF/yr
0.2	1.3

Pollutant

	PM	PM10	SO2	NOx	VOC	CO
Emission Factor in lb/MMCF	7.6	7.6	0.6	100.0 *see below	5.5	84.0
Potential Emission in tons/yr	0.0	0.0	0.0	0.1	0.0	0.1

Methodology

All emission factors are based on normal firing.
MMBtu = 1,000,000 Btu
MMCF = 1,000,000 Cubic Feet of Gas
Emission Factors for NOx: Uncontrolled = 100, Low NOx Burner = 50, Low NOx Burners/Flue gas recirculation = 32
PM emission factors are condensable and filterable.

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
See page 2 for HAPs emissions calculations.

Appendix A: Emissions Calculations
Natural Gas Combustion Only
MM BTU/HR <100
Small Industrial Boiler
HAPs Emissions

Company Name:
Address City IN Zip:
CP:
Plt ID:
Reviewer:
Date:

HAPs - Organics

	Benzene	Dichlorobenzene	Formaldehyde	Hexane	Toluene
Emission Factor in lb/MMcf	2.1E-03	1.2E-03	7.5E-02	1.8E+00	3.4E-03
Potential Emission in tons/yr	0.0	0.0	0.0	0.0	0.0

HAPs - Metals

	Lead	Cadmium	Chromium	Manganese	Nickel
Emission Factor in lb/MMcf	5.0E-04	1.1E-03	1.4E-03	3.8E-04	2.1E-03
Potential Emission in tons/yr	0.0	0.0	0.0	0.0	0.0

Methodology is the same as page 1.

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

Appendix A: Emissions Calculations
Natural Gas Combustion Only
MM BTU/HR <100
Small Industrial Boiler

Company Name: **AK Industries, Inc.**
Address City IN Zip: **2055 Pidco Dr., Plymouth, IN 46563**
CP: **099-10311**
Plt ID: **099-00043**
Reviewer: SDF
Date: 01-12-99

Heat Input Capacity MMBtu/hr	Potential Throughput MMCF/yr
0.2	1.3

Pollutant

	PM	PM10	SO2	NOx	VOC	CO
Emission Factor in lb/MMCF	7.6	7.6	0.6	100.0 *see below	5.5	84.0
Potential Emission in tons/yr	0.0	0.0	0.0	0.1	0.0	0.1

Methodology

All emission factors are based on normal firing.
MMBtu = 1,000,000 Btu
MMCF = 1,000,000 Cubic Feet of Gas
Emission Factors for NOx: Uncontrolled = 100, Low NOx Burner = 50, Low NOx Burners/Flue gas recirculation = 32
PM emission factors are condensable and filterable.

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
See page 2 for HAPs emissions calculations.

Appendix A: Emissions Calculations
Natural Gas Combustion Only
MM BTU/HR <100
Small Industrial Boiler
HAPs Emissions

Company Name:
Address City IN Zip:
CP:
Plt ID:
Reviewer:
Date:

HAPs - Organics

	Benzene	Dichlorobenzene	Formaldehyde	Hexane	Toluene
Emission Factor in lb/MMcf	2.1E-03	1.2E-03	7.5E-02	1.8E+00	3.4E-03
Potential Emission in tons/yr	0.0	0.0	0.0	0.0	0.0

HAPs - Metals

	Lead	Cadmium	Chromium	Manganese	Nickel
Emission Factor in lb/MMcf	5.0E-04	1.1E-03	1.4E-03	3.8E-04	2.1E-03
Potential Emission in tons/yr	0.0	0.0	0.0	0.0	0.0

Methodology is the same as page 1.

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

Appendix A: Emissions Calculations
Natural Gas Combustion Only
MM BTU/HR <100
Small Industrial Boiler

Company Name: **AK Industries, Inc.**
Address City IN Zip: **2055 Pidco Dr., Plymouth, IN 46563**
CP: **099-10311**
Plt ID: **099-00043**
Reviewer: SDF
Date: 01-12-99

Heat Input Capacity MMBtu/hr	Potential Throughput MMCF/yr
0.2	1.3

Pollutant

	PM	PM10	SO2	NOx	VOC	CO
Emission Factor in lb/MMCF	7.6	7.6	0.6	100.0 *see below	5.5	84.0
Potential Emission in tons/yr	0.0	0.0	0.0	0.1	0.0	0.1

Methodology

All emission factors are based on normal firing.
MMBtu = 1,000,000 Btu
MMCF = 1,000,000 Cubic Feet of Gas
Emission Factors for NOx: Uncontrolled = 100, Low NOx Burner = 50, Low NOx Burners/Flue gas recirculation = 32
PM emission factors are condensable and filterable.

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
See page 2 for HAPs emissions calculations.

Appendix A: Emissions Calculations
Natural Gas Combustion Only
MM BTU/HR <100
Small Industrial Boiler
HAPs Emissions

Company Name:
Address City IN Zip:
CP:
Plt ID:
Reviewer:
Date:

HAPs - Organics

	Benzene	Dichlorobenzene	Formaldehyde	Hexane	Toluene
Emission Factor in lb/MMcf	2.1E-03	1.2E-03	7.5E-02	1.8E+00	3.4E-03
Potential Emission in tons/yr	0.0	0.0	0.0	0.0	0.0

HAPs - Metals

	Lead	Cadmium	Chromium	Manganese	Nickel
Emission Factor in lb/MMcf	5.0E-04	1.1E-03	1.4E-03	3.8E-04	2.1E-03
Potential Emission in tons/yr	0.0	0.0	0.0	0.0	0.0

Methodology is the same as page 1.

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

Appendix A: Emissions Calculations
Natural Gas Combustion Only
MM BTU/HR <100
Small Industrial Boiler

Company Name: **AK Industries, Inc.**
Address City IN Zip: **2055 Pidco Dr., Plymouth, IN 46563**
CP: **099-10311**
Plt ID: **099-00043**
Reviewer: SDF
Date: 01-12-99

Heat Input Capacity MMBtu/hr	Potential Throughput MMCF/yr
0.3	2.2

Pollutant

	PM	PM10	SO2	NOx	VOC	CO
Emission Factor in lb/MMCF	7.6	7.6	0.6	100.0 *see below	5.5	84.0
Potential Emission in tons/yr	0.0	0.0	0.0	0.1	0.0	0.1

Methodology

All emission factors are based on normal firing.
MMBtu = 1,000,000 Btu
MMCF = 1,000,000 Cubic Feet of Gas
Emission Factors for NOx: Uncontrolled = 100, Low NOx Burner = 50, Low NOx Burners/Flue gas recirculation = 32
PM emission factors are condensable and filterable.

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

See page 2 for HAPs emissions calculations.

Appendix A: Emissions Calculations
Natural Gas Combustion Only
MM BTU/HR <100
Small Industrial Boiler
HAPs Emissions

Company Name:
Address City IN Zip:
CP:
Plt ID:
Reviewer:
Date:

HAPs - Organics

	Benzene	Dichlorobenzene	Formaldehyde	Hexane	Toluene
Emission Factor in lb/MMcf	2.1E-03	1.2E-03	7.5E-02	1.8E+00	3.4E-03
Potential Emission in tons/yr	0.0	0.0	0.0	0.0	0.0

HAPs - Metals

	Lead	Cadmium	Chromium	Manganese	Nickel
Emission Factor in lb/MMcf	5.0E-04	1.1E-03	1.4E-03	3.8E-04	2.1E-03
Potential Emission in tons/yr	0.0	0.0	0.0	0.0	0.0

Methodology is the same as page 1.

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

Appendix A: Emissions Calculations
Natural Gas Combustion Only
MM BTU/HR <100
Small Industrial Boiler

Company Name: **AK Industries, Inc.**
Address City IN Zip: **2055 Pidco Dr., Plymouth, IN 46563**
CP: **099-10311**
Plt ID: **099-00043**
Reviewer: SDF
Date: 01-12-99

Heat Input Capacity MMBtu/hr	Potential Throughput MMCF/yr
2.0	17.5

Pollutant

	PM	PM10	SO2	NOx	VOC	CO
Emission Factor in lb/MMCF	7.6	7.6	0.6	100.0 *see below	5.5	84.0
Potential Emission in tons/yr	0.1	0.1	0.0	0.9	0.0	0.7

Methodology

All emission factors are based on normal firing.
MMBtu = 1,000,000 Btu
MMCF = 1,000,000 Cubic Feet of Gas
Emission Factors for NOx: Uncontrolled = 100, Low NOx Burner = 50, Low NOx Burners/Flue gas recirculation = 32
PM emission factors are condensable and filterable.

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
See page 2 for HAPs emissions calculations.

Appendix A: Emissions Calculations
Natural Gas Combustion Only
MM BTU/HR <100
Small Industrial Boiler
HAPs Emissions

Company Name:
Address City IN Zip:
CP:
Plt ID:
Reviewer:
Date:

HAPs - Organics

	Benzene	Dichlorobenzene	Formaldehyde	Hexane	Toluene
Emission Factor in lb/MMcf	2.1E-03	1.2E-03	7.5E-02	1.8E+00	3.4E-03
Potential Emission in tons/yr	0.0	0.0	0.0	0.0	0.0

HAPs - Metals

	Lead	Cadmium	Chromium	Manganese	Nickel
Emission Factor in lb/MMcf	5.0E-04	1.1E-03	1.4E-03	3.8E-04	2.1E-03
Potential Emission in tons/yr	0.0	0.0	0.0	0.0	0.0

Methodology is the same as page 1.

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

Appendix A: Emissions Calculations
Natural Gas Combustion Only
MM BTU/HR <100
Small Industrial Boiler

Company Name: **AK Industries, Inc.**
Address City IN Zip: **2055 Pidco Dr., Plymouth, IN 46563**
CP: **099-10311**
Plt ID: **099-00043**
Reviewer: SDF
Date: 01-12-99

Heat Input Capacity MMBtu/hr	Potential Throughput MMCF/yr
3.0	26.3

Pollutant

	PM	PM10	SO2	NOx	VOC	CO
Emission Factor in lb/MMCF	7.6	7.6	0.6	100.0 *see below	5.5	84.0
Potential Emission in tons/yr	0.1	0.1	0.0	1.3	0.1	1.1

Methodology

All emission factors are based on normal firing.
MMBtu = 1,000,000 Btu
MMCF = 1,000,000 Cubic Feet of Gas
Emission Factors for NOx: Uncontrolled = 100, Low NOx Burner = 50, Low NOx Burners/Flue gas recirculation = 32
PM emission factors are condensable and filterable.

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

See page 2 for HAPs emissions calculations.

Appendix A: Emissions Calculations
Natural Gas Combustion Only
MM BTU/HR <100
Small Industrial Boiler
HAPs Emissions

Company Name:
Address City IN Zip:
CP:
Plt ID:
Reviewer:
Date:

HAPs - Organics

	Benzene	Dichlorobenzene	Formaldehyde	Hexane	Toluene
Emission Factor in lb/MMcf	2.1E-03	1.2E-03	7.5E-02	1.8E+00	3.4E-03
Potential Emission in tons/yr	0.0	0.0	0.0	0.0	0.0

HAPs - Metals

	Lead	Cadmium	Chromium	Manganese	Nickel
Emission Factor in lb/MMcf	5.0E-04	1.1E-03	1.4E-03	3.8E-04	2.1E-03
Potential Emission in tons/yr	0.0	0.0	0.0	0.0	0.0

Methodology is the same as page 1.

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

Appendix A: Emissions Calculations
Natural Gas Combustion Only
MM BTU/HR <100
Small Industrial Boiler

Company Name: **AK Industries, Inc.**
Address City IN Zip: **2055 Pidco Dr., Plymouth, IN 46563**
CP: **099-10311**
Plt ID: **099-00043**
Reviewer: SDF
Date: 01-12-99

Heat Input Capacity MMBtu/hr	Potential Throughput MMCF/yr
3.0	26.3

	Pollutant					
	PM	PM10	SO2	NOx	VOC	CO
Emission Factor in lb/MMCF	7.6	7.6	0.6	100.0 *see below	5.5	84.0
Potential Emission in tons/yr	0.1	0.1	0.0	1.3	0.1	1.1

Methodology

All emission factors are based on normal firing.
MMBtu = 1,000,000 Btu
MMCF = 1,000,000 Cubic Feet of Gas
Emission Factors for NOx: Uncontrolled = 100, Low NOx Burner = 50, Low NOx Burners/Flue gas recirculation = 32
PM emission factors are condensable and filterable.

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
See page 2 for HAPs emissions calculations.

Appendix A: Emissions Calculations
Natural Gas Combustion Only
MM BTU/HR <100
Small Industrial Boiler
HAPs Emissions

Company Name:
Address City IN Zip:
CP:
Plt ID:
Reviewer:
Date:

HAPs - Organics

	Benzene	Dichlorobenzene	Formaldehyde	Hexane	Toluene
Emission Factor in lb/MMcf	2.1E-03	1.2E-03	7.5E-02	1.8E+00	3.4E-03
Potential Emission in tons/yr	0.0	0.0	0.0	0.0	0.0

HAPs - Metals

	Lead	Cadmium	Chromium	Manganese	Nickel
Emission Factor in lb/MMcf	5.0E-04	1.1E-03	1.4E-03	3.8E-04	2.1E-03
Potential Emission in tons/yr	0.0	0.0	0.0	0.0	0.0

Methodology is the same as page 1.

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

Indiana Department of Environmental Management
Office of Air Management

Addendum to the
Technical Support Document for New Construction and Operation

Source Name:	AK Industries, Inc.
Source Location:	2055 Pidco Drive, Plymouth, Indiana 46563
County:	Marshall
Construction Permit No.:	CP-099-10311-00043
SIC Code:	3089
Permit Reviewer:	SDF

On February 8, 1999, the Office of Air Management (OAM) had a notice published in the Plymouth Pilot News, Plymouth, Indiana, stating that AK Industries, Inc. had applied for a construction permit to construct and operate a fiberglass parts manufacturing operation. The notice also stated that OAM proposed to issue a permit for this installation and provided information on how the public could review the proposed permit 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 March 2, 1999, Ken DeRolf of DECA Consultants submitted comments on the proposed construction permit. The summary of the comments and corresponding responses is as follows (changes are bolded for emphasis):

Comment 1: A.1. The mailing address needs to be changed to P.O. Box 640, Plymouth, IN 46563.

Response 1: The mailing address shall be changed as requested.

Comment 2: A.2. The portable resin spray unit (CPC4) was not included in the Equipment summary.

Response 2: The portable spray unit shall be added to the source unit description. Review of the permit showed that the emissions generated by the portable gun were included in the filament winding unit emission calculations. Thus, no additional emission calculations are required. Further, it is determined that the addition of the portable spray applicator will not affect any current permit requirements or trigger any new requirements because the applicable standards (326 IAC 8-1-6, 326 IAC 2-1-3.4, and 326 IAC 6-3-2) already include the portable spray applicator emissions. However, these conditions do not have the portable spray unit applicator listed in the respective applicable condition. Thus, the portable spray applicator will be added to the equipment listing of A.2, its appropriate D Section (D.1), and the appropriate applicable condition (D.1.3).

Comment 3: A.2 a) 2.The gelcoat booth is not a flowcoat booth.

Response 3: The flowcoat reference shall be removed.

Comment 4: A.2 b) 1. The gelcoat booth is not a flowcoat booth.

Response 4: The flowcoat reference shall be removed.

Comment 5: D (b) & (1). Please remove the flowcoat description from the gelcoat booths. Also add the portable spray unit to the Fiberglass Parts Manufacturing Operations.

Response 5: The Section D.1 operation description referencing the gelcoat booths as being flowcoaters shall be changed as requested.

Comment 6: D.1.3. Add the portable spray unit (CPC4) to the paragraph and remove the four resin flowcoat emission units because the flow coaters are a non-spray technology that does not generate PM emissions.

Response 6: The Office of Air Management's (OAM's) most current transfer efficiency for fiberglass resin flowcoat units is determined to be 100% which means no PM/PM10 overspray will be generated. Thus, the flowcoaters (CP1, CP2, CP3, and FCR1) are not subject to the 326 IAC 6-3 PM overspray requirements of Condition D.1.3 and shall be removed. The portable spray unit (CPC4) is subject to the 326 IAC 6-3 PM overspray requirements of Condition D.1.3 and shall be added to the equipment listing of the condition.

Comment 7: D.1.8. Dry filters are not required on flowcoat booths and the filament winder because there is no PM PTE generated. Thus, the requirement of dry filters for the four flowcoat booths and one filament winder machine should be removed.

Response 7: Condition D.1.8 only requires that the dry filters, baghouses, and cyclones "for particulate matter control" shall be in operation at all times when the fiberglass facilities are in operation. The referenced four flowcoat booths and filament winder FW4 are not listed in Condition D.1.3 which lists the PM overspray requirements.

Since the equipment is not listed in Condition D.1.3, it is determined that the four flowcoat booths and filament winder FW4 do not generate PM emissions (PM overspray) which means that the filter systems associated with the units are not subject to the compliance monitoring requirements of Condition D.1.8. This determination is due to the fact that if no PM emissions are being generated, any filter or other reduction devices associated with the listed equipment cannot be controlling emissions because there are no emissions to control.

However, there are other PM generating equipment in the fiberglass parts manufacturing operation that do generate PM emissions and are subject to Condition D.1.8. Thus, Condition D.1.8 is needed in the permit. Therefore, since it is determined that Condition D.1.8 does not apply to the four flowcoat booths and filament winder FW4 until said units generate PM emissions and the condition is needed in the permit for the units subject to the requirements of Condition D.1.3, no changes will be made.

Comment 8: D.1.9(a). Please rewrite paragraph (a) for the four flowcoat booths because the processes do not rely on the filters to comply with 326 IAC 6. In addition, the filament winding machine (FW4) has no potential for particulate emissions and should not be included as requiring dry filters.

Response 8: The monitoring requirements of Condition D.1.9 apply to units that have emission controls as specified in Condition D.1.8. If there are no emissions being generated by the specified units, then the filters etc. used are not controlling PM emissions and thus are not subject to the requirements of Condition D.1.8 or D.1.9. If PM emissions are generated, then the filters are PM controls and the booths are subject to the requirements of both D.1.8 and D.1.9 which means that both conditions need to be in the permit. Further, there are units subject to the requirements of this condition which means the condition is needed in the permit. Thus, no changes will be made to D.1.9(a).

Comment 9: D.1.9(b). Please remove this condition in its entirety. The presence of overspray on the rooftop or nearby ground does not prove or demonstrate noncompliance. Any particles that settled to the ground that quicky were probably in excess of 100 microns in diameter, and never did constitute an air pollutant. Additionally, most of the stacks are located on the outside of exterior walls and it could be dangerous to require someone to climb on the rooftop to look for accumulations of overspray.

Response 9: Complying with the requirements of 326 IAC 6-3-2 can be especially variable for paint booths. The actual substrate being painted and the solids content of the paint being used can affect the process weight rate, the gallons or pounds of solids used, transfer efficiency, or other factors that directly affect actual, allowable or potential emissions. While permit applications contain representative information regarding these factors, relying on this information as an ongoing demonstration of compliance is difficult if the factors are not enforceable. The OAM does not believe that it would be generally advisable to include these factors as permit conditions, to make them enforceable or to presume that they are so fixed they define the source's potential emissions because either could severely limit a source's operational flexibility. Properly operating the air pollution controls that are already in place is generally adequate to demonstrate compliance with 326 IAC 6-3 in lieu of a stack test and also assures compliance with applicable rules limiting fugitive dust, opacity, and (when necessary) Potential to Emit. The OAM believes that checking the placement and integrity of the filters once a day is a very effective means of ensuring proper operation and ongoing compliance. The OAM has re-evaluated the other compliance monitoring provisions related to evidence of actual emissions from the paint booths and believes that less resource intensive provisions are appropriate. The frequency of visible emission evaluations has been changed from daily to weekly. The frequency of inspections of rooftops or other surfaces for a noticeable change in solids deposition has been changed from weekly to monthly.

Further, while there are definitions of particulate matter that include diameter, the reference method for determining compliance with the limitations that apply to particulate matter emissions from these facilities is a "method 5 stack test". This method does not exclude any normal sized particle in the measurement of emission rate. In addition, evidence of deposition strongly implies increased particulate matter emissions into the air. The OAM does not believe that such a test is necessary to demonstrate compliance at this time, but discussions of particulate matter emission rates should be made in terms of these methods.

Thus, no changes shall be made.

Comment 10: D.1.9(c). Please change D.1.9(c) because the resin flowcoat booths CP1, CP2, CP3, and FCR1 and the filament winder machine (FW4) do not have PM PTE and are not required to have control.

Response 10: The requirements in 326 IAC 1-6-1 and 326 IAC 1-6-3 specify that the requirement to maintain a Preventive Maintenance Plan is applicable to any facility that is required to obtain a permit or registration. IDEM's compliance monitoring guidance states that a compliance monitoring plan is required only for:

(a) the unit emits particulate matter, sulfur dioxide, or volatile organic compounds; and
(b) the unit has existing applicable requirements; and
(c) the unit is subject to a NSPS or NESHAP (for these units current requirements will satisfy as a compliance monitoring plan); or
(d) the unit has a control device and the allowable emissions exceed 10 pounds per hour; or
(e) the unit does not have a control device and has actual emissions exceeding 25 tons per year.

The guidance does not state that if a facility does not meet the above requirements, compliance monitoring will never be necessary, it does state that a compliance monitoring plan is not required to be submitted with the application. In most cases, the requirement to maintain a preventive maintenance plan and perform compliance monitoring has followed the same guidelines as specified above. However, there are some types of operations (i.e. woodworking) that the OAM has determined that compliance monitoring and preventive maintenance plans are necessary to ensure continuous compliance.

Comment 11: D.1.11. Please change this condition as inspections should not be required until such time as minimal visible emissions are observed from the stack.

Response 11: This condition is required to not only detect problems that would result in abnormal visible emissions, but also detect problems that may result in emissions greater than the respective allowable emissions. Thus, no changes to the condition shall be made.

Comment 12: D.1.13(b)(c). Paragraphs (b) and (c) of D.1.13 should be rewritten to show that monitoring and record keeping are not required for the resin flowcoat booths (CP1, CP2, CP3, and FCR1) and the filament winder machine (FW4) because they don't have PTE that are not required to be controlled.

Response 12: Condition D.1.13(b) references Condition D.1.9. It is determined that there are no PM emissions from the four flowcoat booths and filament winder FW4. Since there are no particulate PTE from the flowcoat booths and filament winder machine FW4, then the filters are not considered controls and are not subject to the monitoring requirements under Condition D.1.9 and the source does not have to meet those requirements. If Condition D.1.9 does not apply then D.1.13(b) does not apply. Conditions D.1.9 and D.1.13 are needed in the permit, however, because there are other units to which this condition applies and because the conditions become applicable if the units in question at some point generate particulate emissions and the filters control the emissions and because there are other units in the operation to which the condition applies. Thus, no changes will be made to the condition.

Comment 13: D.2. The paint booth is in compliance without the dry filter system. This requirement should be removed because the dry filters are not required for compliance.

Response 13: The OAM agrees that in this case, the use of dry filters may not be necessary for compliance with 326 IAC 6-3. However, the compliance monitoring of the dry filters is still used as a trigger for possible responsive action to be taken at the coating operations. 326 IAC 6-3 is a difficult rule. IDEM receives numerous complaints about overspray from this type of facility. The use and monitoring of the filters is necessary to ensure that the facility is operating correctly and that the ambient air quality standards set forth in 326 IAC 1-3 will be attained and/or maintained, and that the public health will be protected, as allowed by 326 IAC 2-1.1-5(a)(4). No permit change was made as a result of this comment.

Comment 14: D.2.4. This condition should be removed in its entirety. The Preventive Maintenance Plan is not required for an emission unit which is in compliance with the PM limitations of 326 IAC 6-3-2 without control.

Response 14: As stated in Response 13, it is determined that the filter system does demonstrate compliance with 326 IAC 6-3 and that all conditions related to the dry filter system are necessary. Thus, no changes will be made.

Comment 15: D.2.6. This condition should be removed for the same reasons as D.2 and D.2.4.

Response 15: No changes will be made for the same reasons as explained in Responses 13 and 14.

Comment16: D.2.7(a). Please rewrite Condition D.2.7(a) for the paint booth because the processes do not rely on the filters to comply with 326 IAC 6.

Response 16: It is determined that the paint booth does rely on the dry filter system to comply with 326 IAC 6. Thus, no changes will be made.

Comment 17: D.2.7(b). Please remove D.2.7(b) in its entirety. The presence of overspray on the rooftop or nearby ground does not prove or demonstrate noncompliance. Any particles that settled to the ground that quickly were probably in excess of 100 microns in aerodynamic diameter and never did constitute an air pollutant. Additionally, the paint booth stack is located on the outside of exterior walls and it could be Dangerous to require someone to climb onto the roof to look for accumulations of overspray.

Response 17: Condition D.2.7(b) is a standard condition placed in all permits. There is no means of guaranteeing that the particles that settle on the ground are indeed in excess of 100 microns as claimed so the worst case scenario must be used in this case. In response to the second claim, Condition D.2.7(b) only requires “monthly” inspections of the rooftop, not specifying what part of the month the inspections are conducted, which leaves many different opportunities for the official to inspect the rooftops and provides time for the bad weather to pass.

Comment 18: D.2.7(c). Please change Condition D.2.7(c) because the paint booth does not require control to be in compliance with 326 IAC 6-3-2. Therefore, a Preventive Maintenance Plan is not required because there is no emission control.

Response 18: It has been determined that compliance with 326 IAC 6-3-2 is achieved through the use of the dry filter system. Thus, the Preventive Maintenance Plan is required and Condition D.2.7(c) needs to be in the permit. Thus, no changes will be made.

Comment 19: TSD. The PM emissions in the TSD over estimate the PM/PM10 emissions due to the fact that an transfer efficiency less than 100% for the flowcoaters was used in determining the PM/PM10 emissions.

Response 19: The Office of Air Management's (OAM's) most current transfer efficiency for fiberglass resin flowcoat units is determined to be 100% which means no PM/PM10 overspray will be generated for the flowcoater units. The transfer efficiency used in the emission calculations was 85% which means the emissions were over estimated. Thus, the emissions calculations shall be amended to reflect the change in transfer efficiency. The change in PM/PM10 emissions will not affect the permit applicability, trigger any new applicable requirements, or require any changes in the existing proposed conditions.