



Environmental  
Protection Agency

Ted Strickland, Governor  
Lee Fisher, Lt. Governor  
Chris Korleski, Director

12/21/2010

Mr. Don Currey  
MAR-BAL, INC.  
16930 Munn Road  
Chagrin Falls, OH 44023

RE: FINAL AIR POLLUTION PERMIT-TO-INSTALL AND OPERATE

Facility ID: 0228000194  
Permit Number: P0107143  
Permit Type: Administrative Modification  
County: Geauga

Certified Mail

Yes	TOXIC REVIEW
No	PSD
No	SYNTHETIC MINOR TO AVOID MAJOR NSR
No	CEMS
No	MACT/GACT
No	NSPS
No	NESHAPS
No	NETTING
No	MAJOR NON-ATTAINMENT
No	MODELING SUBMITTED
Yes	SYNTHETIC MINOR TO AVOID TITLE V
Yes	FEDERALLY ENFORCABLE PTIO (FEPTIO)

Dear Permit Holder:

Enclosed please find a final Air Pollution Permit-to-Install and Operate (PTIO) which will allow you to install, modify, and/or operate the described emissions unit(s) in the manner indicated in the permit. Because this permit contains conditions and restrictions, please read it very carefully. Please complete a survey at [www.epa.ohio.gov/dapc/permitsurvey.aspx](http://www.epa.ohio.gov/dapc/permitsurvey.aspx) and give us feedback on your permitting experience. We value your opinion.

The issuance of this PTI is a final action of the Director and may be appealed to the Environmental Review Appeals Commission pursuant to Section 3745.04 of the Ohio Revised Code. The appeal must be in writing and set forth the action complained of and the grounds upon which the appeal is based. The appeal must be filed with the Commission within thirty (30) days after notice of the Director's action. The appeal must be accompanied by a filing fee of \$70.00, made payable to "Ohio Treasurer Kevin Boyce," which the Commission, in its discretion, may reduce if by affidavit you demonstrate that payment of the full amount of the fee would cause extreme hardship. Notice of the filing of the appeal shall be filed with the Director within three (3) days of filing with the Commission. Ohio EPA requests that a copy of the appeal be served upon the Ohio Attorney General's Office, Environmental Enforcement Section. An appeal may be filed with the Environmental Review Appeals Commission at the following address:

Environmental Review Appeals Commission  
309 South Fourth Street, Room 222  
Columbus, OH 43215

If you have any questions, please contact Ohio EPA DAPC, Northeast District Office at (330)425-9171 or the Office of Compliance Assistance and Pollution Prevention at (614) 644-3469. This permit can be accessed electronically on the DAPC Web page, [www.epa.ohio.gov/dapc](http://www.epa.ohio.gov/dapc), by clicking the "Issued Air Pollution Control Permits" link.

Sincerely,

Michael W. Ahern, Manager  
Permit Issuance and Data Management Section, DAPC

Cc: Ohio EPA-NEDO





**FINAL**

**Division of Air Pollution Control  
Permit-to-Install and Operate  
for  
MAR-BAL, INC.**

Facility ID: 0228000194  
Permit Number: P0107143  
Permit Type: Administrative Modification  
Issued: 12/21/2010  
Effective: 12/21/2010  
Expiration: 9/4/2013





Division of Air Pollution Control
Permit-to-Install and Operate
for
MAR-BAL, INC.

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## Authorization

Facility ID: 0228000194

Application Number(s): M0001023

Permit Number: P0107143

Permit Description: Modification of this permit so this emissions unit can be installed without shut down of emissions unit P003. After modification, the facility potential to emit of styrene, "bottle neck" restriction, and operational limitations will not be changed. Therefore, the facility will not be a major source.

Permit Type: Administrative Modification

Permit Fee: \$250.00

Issue Date: 12/21/2010

Effective Date: 12/21/2010

Expiration Date: 9/4/2013

Permit Evaluation Report (PER) Annual Date: Jan 1 - Dec 31, Due Feb 15

This document constitutes issuance to:

MAR-BAL, INC.  
16930 MUNN RD  
AUBURN TOWNSHIP, OH 44023

of a Permit-to-Install and Operate for the emissions unit(s) identified on the following page.

Ohio EPA District Office or local air agency responsible for processing and administering your permit:

Ohio EPA DAPC, Northeast District Office  
2110 East Aurora Road  
Twinsburg, OH 43087  
(330)425-9171

The above named entity is hereby granted this Permit-to-Install and Operate for the air contaminant source(s) (emissions unit(s)) listed in this section pursuant to Chapter 3745-31 of the Ohio Administrative Code. Issuance of this permit does not constitute expressed or implied approval or agreement that, if constructed or modified in accordance with the plans included in the application, the described emissions unit(s) will operate in compliance with applicable State and federal laws and regulations.

This permit is granted subject to the conditions attached hereto.

Ohio Environmental Protection Agency



Chris Korleski  
Director



## Authorization (continued)

Permit Number: P0107143  
Permit Description: Modification of this permit so this emissions unit can be installed without shut down of emissions unit P003. After modification, the facility potential to emit of styrene, "bottle neck" restriction, and operational limitations will not be changed. Therefore, the facility will not be a major source.

Permits for the following Emissions Unit(s) or groups of Emissions Units are in this document as indicated below:

<b>Emissions Unit ID:</b>	<b>P007</b>
Company Equipment ID:	BMC Mixer - Littleford FKM-600-D 95 gallon (600 lb) Plow
Superseded Permit Number:	02-22977
General Permit Category and Type:	Not Applicable

## **A. Standard Terms and Conditions**

**1. What does this permit-to-install and operate ("PTIO") allow me to do?**

This permit allows you to install and operate the emissions unit(s) identified in this PTIO. You must install and operate the unit(s) in accordance with the application you submitted and all the terms and conditions contained in this PTIO, including emission limits and those terms that ensure compliance with the emission limits (for example, operating, recordkeeping and monitoring requirements).

**2. Who is responsible for complying with this permit?**

The person identified on the "Authorization" page, above, is responsible for complying with this permit until the permit is revoked, terminated, or transferred. "Person" means a person, firm, corporation, association, or partnership. The words "you," "your," or "permittee" refer to the "person" identified on the "Authorization" page above. The permit applies only to the emissions unit(s) identified in the permit. If you install or modify any other equipment that requires an air permit, you must apply for an additional PTIO(s) for these sources.

**3. What records must I keep under this permit?**

You must keep all records required by this permit, including monitoring data, test results, strip-chart recordings, calibration data, maintenance records, and any other record required by this permit for five years from the date the record was created. You can keep these records electronically, provided they can be made available to Ohio EPA during an inspection at the facility. Failure to make requested records available to Ohio EPA upon request is a violation of this permit requirement.

**4. What are my permit fees and when do I pay them?**

There are two fees associated with permitted air contaminant sources in Ohio:

- PTIO fee. This one-time fee is based on a fee schedule in accordance with Ohio Revised Code (ORC) section 3745.11, or based on a time and materials charge for permit application review and permit processing if required by the Director.

You will be sent an invoice for this fee after you receive this PTIO and payment is due within 30 days of the invoice date. You are required to pay the fee for this PTIO even if you do not install or modify your operations as authorized by this permit.

- Annual emissions fee. Ohio EPA will assess a separate fee based on the total annual emissions from your facility. You self-report your emissions in accordance with Ohio Administrative Code (OAC) Chapter 3745-78. This fee assessed is based on a fee schedule in ORC section 3745.11 and funds Ohio EPA's permit compliance oversight activities. Unless otherwise specified, facilities subject to one or more synthetic minor restrictions must use Ohio EPA's "Air Services" to submit annual emissions associated with this permit requirement. Ohio EPA will notify you when it is time to report your emissions and to pay your annual emission fees.

**5. When does my PTIO expire, and when do I need to submit my renewal application?**

This permit expires on the date identified at the beginning of this permit document (see "Authorization" page above) and you must submit a renewal application to renew the permit. Ohio EPA will send a renewal notice to you approximately six months prior to the expiration date of this permit. However, it is very important that you submit a complete renewal permit application (postmarked prior to expiration of this permit) even if you do not receive the renewal notice.



If a complete renewal application is submitted before the expiration date, Ohio EPA considers this a timely application for purposes of ORC section 119.06, and you are authorized to continue operating the emissions unit(s) covered by this permit beyond the expiration date of this permit until final action is taken by Ohio EPA on the renewal application.

**6. What happens to this permit if my project is delayed or I do not install or modify my source?**

This PTIO expires 18 months after the issue date identified on the "Authorization" page above unless otherwise specified if you have not (1) started constructing the new or modified emission sources identified in this permit, or (2) entered into a binding contract to undertake such construction. This deadline can be extended by up to 12 months, provided you apply to Ohio EPA for this extension within a reasonable time before the 18-month period has ended and you can show good cause for any such extension.

**7. What reports must I submit under this permit?**

An annual permit evaluation report (PER) is required in addition to any malfunction reporting required by OAC rule 3745-15-06 or other specific rule-based reporting requirement identified in this permit. Your PER due date is identified in the Authorization section of this permit.

**8. If I am required to obtain a Title V operating permit in the future, what happens to the operating provisions and PER obligations under this permit?**

If you are required to obtain a Title V permit under OAC Chapter 3745-77 in the future, the permit-to-operate portion of this permit will be superseded by the issued Title V permit. From the effective date of the Title V permit forward, this PTIO will effectively become a PTI (permit-to-install) in accordance with OAC rule 3745-31-02(B). The following terms and conditions will no longer be applicable after issuance of the Title V permit: Section B, Term 1.b) and Section C, for each emissions unit, Term a)(2). The PER requirements in this permit remain effective until the date the Title V permit is issued and is effective, and cease to apply after the effective date of the Title V permit. The final PER obligation will cover operations up to the effective date of the Title V permit and must be submitted on or before the submission deadline identified in this permit on the last day prior to the effective date of the Title V permit.

**9. What are my obligations when I perform scheduled maintenance on air pollution control equipment?**

You must perform scheduled maintenance of air pollution control equipment in accordance with OAC rule 3745-15-06(A). If scheduled maintenance requires shutting down or bypassing any air pollution control equipment, you must also shut down the emissions unit(s) served by the air pollution control equipment during maintenance, unless the conditions of OAC rule 3745-15-06(A)(3) are met. Any emissions that exceed permitted amount(s) under this permit (unless specifically exempted by rule) must be reported as deviations in the annual permit evaluation report (PER), including nonexempt excess emissions that occur during approved scheduled maintenance.

**10. Do I have to report malfunctions of emissions units or air pollution control equipment? If so, how must I report?**

If you have a reportable malfunction of any emissions unit(s) or any associated air pollution control system, you must report this to the Ohio EPA DAPC, Northeast District Office in accordance with OAC rule 3745-15-06(B). Malfunctions that must be reported are those that result in emissions that exceed

permitted emission levels. It is your responsibility to evaluate control equipment breakdowns and operational upsets to determine if a reportable malfunction has occurred. If you have a malfunction, but determine that it is not a reportable malfunction under OAC rule 3745-15-06(B), it is recommended that you maintain records associated with control equipment breakdown or process upsets. Although it is not a requirement of this permit, Ohio EPA recommends that you maintain records for non-reportable malfunctions.

**11. Can Ohio EPA or my local air agency inspect the facility where the emission unit(s) is/are located?**

Yes. Under Ohio law, the Director or his authorized representative may inspect the facility, conduct tests, examine records or reports to determine compliance with air pollution laws and regulations and the terms and conditions of this permit. You must provide, within a reasonable time, any information Ohio EPA requests either verbally or in writing.

**12. What happens if one or more emissions units operated under this permit is/are shut down permanently?**

Ohio EPA can terminate the permit terms associated with any permanently shut down emissions unit. "Shut down" means the emissions unit has been physically removed from service or has been altered in such a way that it can no longer operate without a subsequent "modification" or "installation" as defined in OAC Chapter 3745-31. You should notify Ohio EPA of any emissions unit that is permanently shut down by submitting<sup>1</sup> a certification that identifies the date on which the emissions unit was permanently shut down. The certification must be submitted by an authorized official from the facility. You cannot continue to operate an emissions unit once the certification has been submitted to Ohio EPA by the authorized official. You must comply with all recordkeeping and reporting for any permanently shut down emissions unit in accordance with the provisions of the permit, regulations or laws that were enforceable during the period of operation, such as the requirement to submit a PER, air fee emission report, or malfunction report. You must also keep all records relating to any permanently shutdown emissions unit, generated while the emissions unit was in operation, for at least five years from the date the record was generated. Again, you cannot resume operation of any emissions unit certified by the authorized official as being permanently shut down without first applying for and obtaining a permit pursuant to OAC Chapter 3745-31.

**13. Can I transfer this permit to a new owner or operator?**

You can transfer this permit to a new owner or operator. If you transfer the permit, you must follow the procedures in OAC Chapter 3745-31, including notifying Ohio EPA or the local air agency of the change in ownership or operator. Any transferee of this permit must assume the responsibilities of the transferor permit holder.

**14. Does compliance with this permit constitute compliance with OAC rule 3745-15-07, "air pollution nuisance"?**

This permit and OAC rule 3745-15-07 prohibit operation of the air contaminant source(s) regulated under this permit in a manner that causes a nuisance. Ohio EPA can require additional controls or

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<sup>1</sup> Permittees that use Ohio EPA's "Air Services" can mark the affected emissions unit(s) as "permanently shutdown" in the facility profile along with the date the emissions unit(s) was permanently removed and/or disabled. Submitting the facility profile update will constitute notifying of the permanent shutdown of the affected emissions unit(s).

modification of the requirements of this permit through enforcement orders or judicial enforcement action if, upon investigation, Ohio EPA determines existing operations are causing a nuisance.

**15. What happens if a portion of this permit is determined to be invalid?**

If a portion of this permit is determined to be invalid, the remainder of the terms and conditions remain valid and enforceable. The exception is where the enforceability of terms and conditions are dependent on the term or condition that was declared invalid.

## **B. Facility-Wide Terms and Conditions**

1. This permit document constitutes a permit-to-install issued in accordance with ORC 3704.03(F) and a permit-to-operate issued in accordance with ORC 3704.03(G).
  - a) For the purpose of a permit-to-install document, the facility-wide terms and conditions identified below are federally enforceable with the exception of those listed below which are enforceable under state law only.
    - (1) None.
  - b) For the purpose of a permit-to-operate document, the facility-wide terms and conditions identified below are enforceable under state law only with the exception of those listed below which are federally enforceable.
    - (1) None.

## **C. Emissions Unit Terms and Conditions**



1. P007, BMC Mixer - Littleford FKM-600-D 95 gallon (600 lb) Plow

Operations, Property and/or Equipment Description:

BMC Mixer - Littleford FKM-600-D 95 gallon (600 lb) Plow Mixer with Baghouse Control. A replacement of P003.

a) This permit document constitutes a permit-to-install issued in accordance with ORC 3704.03(F) and a permit-to-operate issued in accordance with ORC 3704.03(G).

(1) For the purpose of a permit-to-install document, the emissions unit terms and conditions identified below are federally enforceable with the exception of those listed below which are enforceable under state law only.

a. b)(1)i, d)(7), d)(8), d)(9), d)(10), and e)(2).

(2) For the purpose of a permit-to-operate document, the emissions unit terms and conditions identified below are enforceable under state law only with the exception of those listed below which are federally enforceable.

a. b)(1)d, b)(2)f, b)(2)g, b)(2)h, b)(2)i, b)(2)j, c)(1), d)(4)c, d)(4)e, d)(6)a, d)(6)b, d)(6)c, e)(3), f)(1)e, f)(1)f, and f)(1)g.

b) Applicable Emissions Limitations and/or Control Requirements

(1) The specific operation(s), property, and/or equipment that constitute each emissions unit along with the applicable rules and/or requirements and with the applicable emissions limitations and/or control measures are identified below. Emissions from each unit shall not exceed the listed limitations, and the listed control measures shall be specified in narrative form following the table.

	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
a.	OAC rule 3745-17-07(A)	The visible particulate emissions from the dust collector stack shall not exceed 20% opacity as a 6-minute average, except as provided by the rule.  See b)(2)a.
b.	OAC rule 3745-17-11	Particulate emissions from this emissions unit shall not exceed 0.551 pound per hour.
c.	OAC rule 3745-21-07(G)(2)	See b)(2)b through b)(2)d.
d.	OAC rule 3745-31-05(D)	See b)(2)f, b)(2)g, b)(2)h, b)(2)i, b)(2)j, and c)(1).
e.	OAC rule 3745-31-05(A)(3) as effective 11/30/2001	Particulate emissions from all BMC mixers, combined, operated at the facility, shall not exceed 1.0 pound per hour and 4.38 tons per year  See b)(2)e, b)(2)k, b)(2)l b)(2)m, b)(2)n,



	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
		b)(2)o, b)(2)p, and b)(2)s.
f.	OAC rule 3745-31-05(A)(3)(b) as effective 12/01/2006	See b)(2)k, b)(2)l, b)(2)m, b)(2)n, b)(2)q, and b)(2)r.
g.	OAC rule 3745-31-05(E)	See b)(2)e, b)(2)s and b)(2)t.
h.	OAC rule 3745-21-25	See b)(2)u and d)(11).
i.	ORC 3704.03 (F)	See d)(7), d)(8), d)(9), d)(10), and e)(2).

(2) Additional Terms and Conditions

- a. This visible particulate emission limitation is applicable only when BMC mixers which have a more stringent visible particulate emission limitation, such as emissions units P003, P004, P005, and P006, are not in operation.
- b. The organic compound (OC) emissions generated by operating this emissions unit shall not exceed 8 pounds per hour and 40 pounds per day when photochemically reactive materials are employed.
- c. The emissions of organic materials generated from operating this emissions unit consist of styrene, a photochemically reactive material, as defined in OAC rule 3745-21-01(C)(5).
- d. The OC emission limitation of 8 pounds per hour and 40 pounds per day when photochemically reactive materials are employed shall cease to be effective and federally enforceable on the date the U.S. EPA approves the revisions to OAC rule 3745-21-07(G) as a revision to the Ohio SIP for organic compounds. After the rule is added to the Ohio SIP, the emission limitation, monitoring, record keeping, reporting, and testing requirements related to these hourly and daily limitations included in sections b)(1)c, b)(2)b, b)(2)c, b)(2)d, b)(2)k, d)(3)b, d)(3)f, d)(5)b, e)(3)(a)vii, e)(3)(a)viii, f)(1)a, f)(1)b, and f)(1)k shall be void.
- e. Organic compounds (OC) emissions, from the use of acetone as a cleanup material for all BMC mixers in the facility, shall not exceed 9.90 tons per year.
- f. The facility-wide styrene emissions shall not exceed 9.00 tons per year, based upon a rolling, 12-month summation.
- g. The permittee shall seek pre-approval from Ohio EPA, by (at a minimum) submitting a facility-wide potential-to-emit (PTE) analysis, before the installation of any additional pre-blending tank at the facility. This does not waive the permittee's responsibility to comply with OAC chapter 3745-31.
- h. The maximum percentage of styrene in the preblended liquid materials shall not exceed forty-six percent (46.00 %), by weight.
- i. Only preblended liquid materials originating from this facility's pre-blending tanks shall be used in this emissions unit. Preblended liquid materials are prohibited

from being transferred to any holding tanks or storage vessels in or outside of this facility, except in cases of malfunction.

- j. The pre-blending tanks in the facility shall be operated in such a manner that each complete batch of the preblended liquid materials shall be transferred to only one mixer at this facility. Therefore, when the two preblending tanks are operating there shall be no more than two mixers in operation at any given time at this facility.
- k. The permittee shall only use non-photochemically reactive material for cleanup.
- l. There shall be no more than four permitted BMC mixers at the facility in active service at any given time.
- m. A cover shall be used on this emissions unit. The permittee shall keep the mixer cover closed while actual mixing is occurring, except when adding materials to this emissions unit.
- n. The permittee shall use volatile organic compounds (VOC) vapor-suppressed bags to store the mixed materials prior to further use.
- o. VOC (styrene) emissions from this emissions unit shall not exceed 3.40 tons per year.
- p. The permittee has satisfied the Best Available Technology (BAT) requirements pursuant to OAC paragraph 3745-31-05 (A)(3), as effective November 30, 2001, in this permit. On December 1, 2006, paragraph (A)(3) of OAC rule 3745-31-05 was revised to conform to ORC changes effective August 3, 2006 (S.B. 265 changes), such that BAT is no longer required by State regulations for NAAQS pollutant less than ten tons per year. However, that rule revision has not yet been approved by U.S. EPA as a revision to Ohio's State Implementation Plan (SIP). Therefore, until the SIP revision occurs and the U.S. EPA approves the revisions to OAC rule 3745-31-05, the requirement to satisfy BAT still exists as part of the federally-approved SIP for Ohio. Once U.S. EPA approves the December 1, 2006 version of 3745-31-05, then these emission limits/control measures no longer apply.
- q. This rule paragraph applies once U.S. EPA approves the December 1, 2006 version of OAC rule 3745-31-05 as part of State Implementation Plan.
- r. The Best Available Technology (BAT) requirements under OAC rule 3745-31-05 (A)(3)(a)(ii) do not apply to the uncontrolled VOC, OC, and particulate emissions from this air contaminant source since the potentials to emit for VOC, OC, and particulate emissions are each less than 10 tons per year.
- s. The permittee shall use a shaking-type dust collector with timer, which shall periodically clean the dust cake from the bags, to control the particulate emissions generated from the operation of all BMC mixers at this facility.

- t. The permittee shall not exceed a voluntary restriction of 4.38 tons per year of particulate emissions from all BMC mixers, combined, operated at the facility to avoid being subject to BAT requirements.
  - u. In accordance with OAC rule 3745-21-25(A)(2)(e), OAC rule 3745-21-25 shall not apply to any facility that has a potential-to-emit of VOC of less than 10.0 tons per year for all reinforced plastic composites production operations combined, except for record keeping requirements specified under d)(11) of these terms and conditions.
- c) Operational Restrictions
- (1) The total styrene throughput at the facility shall be no more than 1,755,410 pounds on a rolling, 12-month summation basis.
- d) Monitoring and/or Recordkeeping Requirements
- (1) The permittee shall properly operate and maintain the timer in the dust collector, which shall periodically clean the dust cake from the bags, while the emissions unit is in operation. The timer shall be installed, calibrated, operated, and maintained in accordance with the manufacturer's recommendations, instructions, and operating manual(s). The permittee shall check the timer on a weekly basis.
  - (2) The permittee shall perform weekly checks, when the emissions unit is in operation and when the weather conditions allow, for any visible particulate emissions from the stack of the dust collector serving this emissions unit. The presence or absence of any visible emissions shall be noted in an operations log. If visible emissions are observed, the permittee shall also note the following in operation log:
    - a. the color of the emissions;
    - b. whether the emissions are representative of normal operations;
    - c. if the emissions are not representative of normal operations, the cause of the abnormal emissions;
    - d. the total duration of any visible emission incident; and
    - e. any corrective actions taken to minimize or eliminate the visible emissions.
- If visible emissions are present, a visible emission incident has occurred. The observer does not have to document the exact start and end times for the visible emission incident under item (d) above or continue the daily check until the incident has ended. The observer may indicate that the visible emission incident was continuous during the observation period (or, if known, continuous during the operation of the emissions unit). With respect to the documentation of corrective actions, the observer may indicate that no corrective actions were taken if the visible emissions were representative of normal operations, or specify the minor corrective actions that were taken to ensure that the emissions unit continued to operate under normal conditions, or specify the corrective actions that were taken to eliminate abnormal visible emissions.
- (3) The permittee shall record the following information for this emissions unit each day:

- a. the name and identification number of each batch of materials mixed in this emissions unit;
- b. the total operating hours of this emissions unit, defined as "OT", in hours per day;
- c. the amount of preblended liquid materials used in each batch, defined as "AM", in pounds per batch;
- d. the percentage of styrene in the preblended liquid materials, by weight, in each batch, defined as "ST%", in pounds styrene per pound of preblended liquid materials;
- e. the total VOC (styrene) emissions from this emissions unit for the day, defined as "D<sub>VOC</sub>", in pounds per day. "D<sub>VOC</sub>" shall be calculated as follows:

$$D_{VOC} = \text{the sum, from } i = 1 \text{ to } i = n \text{ of } [(AM)(ST\%)(EF)]_i$$

where:

i = subscript denoting an individual mixing batch of this emissions unit;

n = the total number of mixing batch of this emissions unit;

EF = emission factor, in pounds VOC emissions per pound of styrene input, determined by the most recent stack test for 600 lbs plow type BMC mixer at the facility; and

- f. the average hourly VOC (styrene) emissions from this emissions unit, "Hvoc", in pounds per hour, shall be calculated as follows:

$$Hvoc = (D_{VOC})/(OT).$$

- (4) The permittee shall keep the following information each month:
  - a. the monthly VOC (styrene) emissions from this emissions unit, in tons per month;
  - b. the monthly facility-wide styrene emissions, in tons per month;
  - c. the rolling, 12-month summation of the total facility-wide styrene emissions, in tons;
  - d. the monthly facility-wide styrene throughput, in pounds per month; and
  - e. the rolling, 12-month summation of total facility-wide styrene throughput, in pounds.
- (5) The permittee shall keep the following cleanup material information each month for this emissions unit:
  - a. the identification of each cleanup material employed;

- b. whether the cleanup material is a non-photochemically reactive material;
- c. the volume of each cleanup material employed, defined as " $V_{\text{cleanup}}$ ", in gallons per month;
- d. the OC content of each cleanup material, defined as " $OC_{\text{content}}$ ", in pounds OC per gallon of the cleanup material;
- e. the total OC emissions from cleanup materials, " $OC_{\text{cleanup}}$ ", in pounds per month, shall be calculated as follows:

$$OC_{\text{cleanup}} = \text{the sum, from } j = 1 \text{ to } j = m \text{ of } [(V_{\text{cleanup}})(OC_{\text{content}})]$$

where:

$j$  = subscript denoting an individual cleanup material; and

$m$  = the total number of cleanup materials employed.

- (6) The permittee shall keep a daily operating log with the following information:
  - a. Whether a cover is used while actual mixing is occurring (except when adding materials to this emissions unit). If a cover is not used in this emissions unit while actual mixing is occurring (except when adding materials to this emissions unit), an explanation of why this emissions unit's cover is not closed.
  - b. Whether this emissions unit accepts pre-blended liquid materials from one of the two pre-blending tanks at the facility. If this emissions unit accepts pre-blended liquid materials other than those originating from one of the two facility's pre-blending tanks, the reason for this activity, and the actual amount of preblended liquid materials being used by this emissions unit in this manner.
  - c. Whether the pre-blended liquid materials from preblending tanks at the facility are transferred into holding tanks or any other type of containers prior to use in the mixers. The log should include an explanation of any time material is transferred to a holding tank or other container because of an emergency or other abnormal circumstance, and the actual amount of preblended liquid materials being transferred.
  - d. The names and identification numbers of BMC mixers at the facility in active service.
- (7) The FEPTIO for all BMC mixers (emissions units P003, P004, P005, P006, P007, and P008) combined, was evaluated based on the actual materials and the design parameters of the emissions units' exhaust system, as specified by the permittee in the permit application. The Ohio EPA's "Toxic Air Contaminant Statute", ORC 3704.03(F), was applied to these emissions units for each toxic air contaminant listed in OAC 3745-114-01, using data from the permit application; and modeling was performed for each toxic air contaminant(s) emitted at over one ton per year using an air dispersion model such as SCREEN 3.0, AERMOD, or ISCST3, or other Ohio EPA approved model. The predicted 1-hour maximum ground\_level concentration result(s) from the approved air dispersion model, was compared to the Maximum Acceptable Ground\_Level

Concentration (MAGLC), calculated as described in the Ohio EPA guidance document entitled "Review of New Sources of Air Toxic Emissions, Option A", as follows:

- a. the exposure limit, expressed as a time-weighted average concentration for a conventional 8-hour workday and a 40-hour workweek, for each toxic compound(s) emitted from the emissions unit(s), (as determined from the raw materials processed and/or coatings or other materials applied) has been documented from one of the following sources and in the following order of preference (TLV was and shall be used, if the chemical is listed):
  - i. threshold limit value (TLV) from the American Conference of Governmental Industrial Hygienists' (ACGIH) "Threshold Limit Values for Chemical Substances and Physical Agents Biological Exposure Indices"; or
  - ii. STEL (short term exposure limit) or the ceiling value from the American Conference of Governmental Industrial Hygienists' (ACGIH) "Threshold Limit Values for Chemical Substances and Physical Agents Biological Exposure Indices"; the STEL or ceiling value is multiplied by 0.737 to convert the 15-minute exposure limit to an equivalent 8-hour TLV.
- b. The TLV is divided by ten to adjust the standard from the working population to the general public (TLV/10).
- c. This standard is/was then adjusted to account for the duration of the exposure or the operating hours of the emissions unit(s), i.e., "X" hours per day and "Y" days per week, from that of 8 hours per day and 5 days per week. The resulting calculation was (and shall be) used to determine the Maximum Acceptable Ground-Level Concentration (MAGLC):

$$\text{TLV}/10 \times 8/X \times 5/Y = 4 \text{ TLV}/XY = \text{MAGLC}$$

- d. The following summarizes the results of dispersion modeling for the significant toxic contaminants (emitted at 1 or more tons/year) or "worst case" toxic contaminant(s):

Toxic Contaminant: Styrene

TLV (mg/m<sup>3</sup>): 85.202

Maximum Hourly Emission Rate (lbs/hr): 2.06

Predicted 1-Hour Maximum Ground\_Level Concentration (ug/m<sup>3</sup>): 1,330

MAGLC (ug/m<sup>3</sup>): 2,029

The permittee, has demonstrated that emissions of styrene, from emissions units P003, P004, P005, P006, P007, and P008 are calculated to be less than eighty per cent of the maximum acceptable ground level concentration (MAGLC); any new raw material or processing agent shall not be applied without evaluating each component toxic contaminant in accordance with ORC 3704.03(F).

- (8) Prior to making any physical changes to or changes in the method of operation of the emissions units, that could impact the parameters or values that were used in the predicted 1-hour maximum ground level concentration", the permittee shall re-model the change(s) to demonstrate that the MAGLC has not been exceeded. Changes that can affect the parameters/values used in determining the 1-hour maximum ground-level concentration include, but are not limited to, the following:
- a. changes in the composition of the materials used or the use of new materials, that would result in the emission of a new toxic air contaminant with a lower Threshold Limit Value (TLV) than the lowest TLV previously modeled;
  - b. changes in the composition of the materials, or use of new materials, that would result in an increase in emissions of any toxic air contaminant listed in OAC 3745-114-01, that was modeled from the initial (or last) application; and
  - c. physical changes to the emissions unit(s) or its/their exhaust parameters (e.g., increased/ decreased exhaust flow, changes in stack height, changes in stack diameter, etc.).

If the permittee determines that the "Toxic Air Contaminant Statute" will be satisfied for the above changes, the Ohio EPA will not consider the change(s) to be a "modification" under OAC rule 3745-31-01 solely due to a non-restrictive change to a parameter or process operation, where compliance with the ORC 3704.03(F), the statute, has been documented. If the change(s) meet(s) the definition of a "modification" or if a new toxic is emitted, or the modeled toxic(s) is/are expected to exceed the previous permitted level(s), then the permittee shall apply for and obtain a final permit-to-install prior to the change. The director may consider any significant departure from the operations of the emissions unit, described in the permit-to-install application, as a modification that results in greater emissions than the emissions rate modeled to determine the ground level concentration; and may require the permittee to submit a permit-to-install application for the increased emissions.

- (9) The permittee shall collect, record, and retain the following information for each toxic evaluation conducted to determine compliance with the "Toxic Air Contaminant Statute":
- a. a description of the parameters/values used in each compliance demonstration and the parameters or values changed for any re-evaluation of the toxic(s) modeled (the composition of materials, new toxic contaminants emitted, change in stack/exhaust parameters, etc.);
  - b. the Maximum Acceptable Ground Level Concentration (MAGLC) for each significant toxic contaminant or worst-case contaminant, calculated in accordance with ORC 3704.03(F);
  - c. a copy of the computer model run(s), that established the predicted 1-hour maximum ground level concentration that demonstrated the emissions unit(s) to be in compliance with ORC 3704.03(F), initially and for each change that requires re-evaluation of the toxic air contaminant emissions; and
  - d. the documentation of the initial evaluation of compliance with ORC 3704.03(F) and documentation of any determination that was conducted to re-evaluate

compliance due to a change made to the emissions unit(s) or the materials applied.

- (10) The permittee shall maintain a record of any change made to a parameter or value used in the dispersion model, used to demonstrate compliance with the "Toxic Air Contaminant Statute", ORC 3704.03(F), through the predicted 1-hour maximum ground-level concentration. The record shall include the date and reason(s) for the change and if the change would increase the ground-level concentration.
- (11) The permittee shall maintain an up-to-date record of the potential-to-emit for VOC from all reinforced plastic composites production operations, combined, and shall employ emission factors or emission estimates in the calculation of potential-to-emit that meet the requirements of OAC rule 3745-21-25(E).
- (12) The permittee shall perform weekly checks, when the emissions unit is in operation and when the weather conditions allow, for any visible particulate emissions from the stack of the dust collector serving this emissions unit. The presence or absence of any visible emissions shall be noted in an operations log. If visible emissions are observed, the permittee shall also note the following in operation log:
  - a. the color of the emissions;
  - b. whether the emissions are representative of normal operations;
  - c. if the emissions are not representative of normal operations, the cause of the abnormal emissions;
  - d. the total duration of any visible emission incident; and
  - e. any corrective actions taken to minimize or eliminate the visible emissions.

If visible emissions are present, a visible emission incident has occurred. The observer does not have to document the exact start and end times for the visible emission incident under item (d) above or continue the daily check until the incident has ended. The observer may indicate that the visible emission incident was continuous during the observation period (or, if known, continuous during the operation of the emissions unit). With respect to the documentation of corrective actions, the observer may indicate that no corrective actions were taken if the visible emissions were representative of normal operations, or specify the minor corrective actions that were taken to ensure that the emissions unit continued to operate under normal conditions, or specify the corrective actions that were taken to eliminate abnormal visible emissions.

e) Reporting Requirements

- (1) Unless other arrangements have been approved by the Director, all notifications and reports shall be submitted through the Ohio EPA's eBusiness Center: Air Services online web portal.
- (2) The permittee shall include any changes made to a parameter or value used in the dispersion model, that was used to demonstrate compliance with the Toxic Air Contaminant Statute, ORC 3704.03(F), through the predicted 1-hour maximum

ground-level concentration, in the annual Permit Evaluation Report (PER). If no changes to the emissions, emissions unit, or the exhaust stack have been made, then the report shall include a statement to this effect.

- (3) The permittee shall submit quarterly deviation (excursion) reports that identify:
- a. all deviations (excursions) of the following emission limitations, operational restrictions and/or control device operating parameter limitations that restrict the potential to emit (PTE) of any regulated air pollutant and have been detected by the monitoring, record keeping and/or testing requirements in this permit:
    - i. an identification of each month during which the rolling, 12-month facility-wide styrene emissions exceeded 9.00 tons, and the actual rolling, 12-month facility-wide styrene emissions for each such month;
    - ii. an identification of each day during which the maximum percentage of styrene in any batch of preblended liquid materials exceeded forty-six percent (46.00%), by weight limitation, and the actual styrene percentage, by weight, in preblended liquid materials for each such batch in each day;
    - iii. an identification of each day during which this emissions unit accepted preblended liquid materials other than those originating from one of the pre-blending tanks at this facility, and the actual amount of pre-blended liquid materials accepted by this emissions units for each such batch in each day, along with the reason for such an activity;
    - iv. an identification of each day during which any batch of preblended liquid materials originating from this facility's preblended tanks were transferred to more than one mixer in this facility, and the actual amount of pre-blended liquid materials transferred to each mixer for each such batch in each day, along with the reason for such activities;
    - v. an identification of each day during which preblended liquid materials were transferred into any holding tanks or storage vessels in or outside of this facility, and the actual amount of preblended liquid materials transferred, along with the reason for such activities;
    - vi. an identification of each month during which the rolling, 12-month total styrene throughput in the facility exceeded 1,755,410 pounds, and the actual amount of styrene throughput in each such month;
    - vii. an identification of each day during which the average hourly VOC (styrene) emissions from this emissions unit exceeded 8.0 pounds, and the actual average hourly VOC (styrene) emissions for each such day; and
    - viii. an identification of each day during which the daily VOC (styrene) emissions from this emissions unit exceeded 40.0 pounds, and the actual daily VOC (styrene) emissions for each such day.

- b. the probable cause of each deviation (excursion);
- c. any corrective actions that were taken to remedy the deviations (excursions) or prevent future deviations (excursions); and
- d. the magnitude and duration of each deviation (excursion).

If no deviations (excursions) occurred during a calendar quarter, the permittee shall submit a report that states that no deviations (excursions) occurred during the quarter.

The quarterly reports shall be submitted, electronically through Ohio EPA Air Services, each year by January 31 (covering October to December), April 30 (covering January to March), July 31 (covering April to June), and October 31 (covering July to September), unless an alternative schedule has been established and approved by the Director (the Ohio EPA Northeast District Office).

- (4) The permittee shall also submit annual reports that specify the total facility-wide styrene emissions and styrene throughput for the previous calendar year. The reports shall be submitted by April 15 of each year. This reporting requirement may be satisfied by including and identifying the specific emission data for each emissions unit in the annual Fee Emission Report.
- (5) The permittee shall submit semiannual written reports that (a) identify all days during which any visible particulate emissions were observed from the stack serving this emissions unit and (b) describe any corrective actions taken to minimize or eliminate the visible particulate emissions. These reports shall be submitted to the Ohio EPA Northeast District Office by January 31 and July 31 of each year and shall cover the previous 6-month periods.
- (6) Annual Permit Evaluation Report (PER) forms will be mailed to the permittee at the end of the reporting period specified in the Authorization section of this permit. The permittee shall submit the PER in the form and manner provided by the director by the due date identified in the Authorization section of this permit. The PER shall cover a reporting period of no more than 12-months for each air contaminant source identified in this permit.

f) Testing Requirements

- (1) Compliance with the emission limitations in section b) and operational restriction in section c) of these terms and conditions shall be determined in accordance with the following methods:

a. Emission Limitation:

The OC emissions generated by operating this emissions unit shall not exceed 8 pounds per hour when photochemically reactive materials are employed.

Applicable Compliance Method:

Compliance shall be demonstrated based upon the record keeping requirements specified in d)(3)f. If required, the permittee shall demonstrate compliance by

emission testing in accordance with the procedures specified in 40 CFR Part 60, Appendix A, Methods 1 through 4 and 25A.

b. Emission Limitation:

The OC emissions generated by operating this emissions unit shall not exceed 40 pounds per day when photochemically reactive materials are employed.

Applicable Compliance Method:

Compliance shall be demonstrated based upon the record keeping requirements specified in d)(3)e.

c. Emission Limitation:

Particulate emissions from all in active service BMC mixers at the facility, combined, shall not exceed 1.0 pound per hour.

Applicable Compliance Method:

Compliance shall be determined in accordance with the following:

$$EP_{P004-P007} = (ME)(FR)(60 \text{ min/hr})/(7,000 \text{ grains/lb})$$

where:

Me = the maximum emission rate from the dust collector stack by the manufacture guarantee number, which is 0.03 grain/ft<sup>3</sup>; and

FR = the maximum flow rate of the dust collector = 3,900 ft<sup>3</sup>/min.

If required, the permittee shall demonstrate compliance by emission testing in accordance with the procedures specified in 40 CFR Part 60, Appendix A, Methods 1 through 5.

d. Emission Limitation:

The visible particulate emissions from the dust collector stack shall not exceed 20% opacity as a 6-minute average, except as provided by the rule.

Applicable Compliance Method:

Compliance shall be demonstrated by visible emission evaluations performed in accordance with the procedures specified in OAC rule 3745-17-03(B)(1) using the test methods and procedures specified in 40 CFR Part 60, Appendix A, Method 9.

e. Emission Limitation:

The facility-wide styrene emissions shall not exceed 9.00 tons per year, based upon a rolling, 12-month summation.

Applicable Compliance Method:

Compliance shall be demonstrated based upon the record keeping requirements specified in d)(4)c.

f. Emission Limitation:

The maximum percentage of styrene in the preblended liquid materials shall not exceed forty-six percent (46.00 %), by weight.

Applicable Compliance Method:

Compliance shall be demonstrated based upon the record keeping requirements specified in d)(3)d.

g. Operational Restriction:

The total styrene throughput at the facility shall be no more than 1,755,410 pounds on a rolling, 12-month summation basis.

Applicable Compliance Method:

Compliance shall be demonstrated based upon the record keeping requirements specified in d)(4)e.

h. Emission Limitation:

Particulate emissions from all in active service BMC mixers in the facility, combined, shall not exceed 4.38 tons per year.

Applicable Compliance Method:

Compliance shall be determined in accordance with the following:

$$EP_{P004-P007} = (ME)(FR)(60 \text{ min/hr})(8,760 \text{ hrs/yr}) / (7,000 \text{ grains/lb})(2,000 \text{ lbs/ton})$$

where:

Me = the maximum emission rate from the dust collector stack by the manufacture guarantee number, which is 0.03 grain/ft<sup>3</sup>; and

FR = the maximum flow rate of the dust collector = 3,900 ft<sup>3</sup>/min.

i. Emission Limitation:

VOC (styrene) emissions from this emissions unit shall not exceed 3.40 tons per year.

Applicable Compliance Methods:

Compliance shall be demonstrated based upon the record keeping requirements specified in d)(4)a and shall be the sum for the calendar year.



j. Emission Limitation:

OC emissions, from the use of acetone as a cleanup material for all BMC mixers in the facility, shall not exceed 9.90 tons per year.

Applicable Compliance Method:

Compliance shall be demonstrated based upon the record keeping requirements specified in d)(5)e and shall be the sum of the calendar year.

k. Emission Limitation:

Use of non-photochemically reactive material for clean-up only

Applicable Compliance Method:

Compliance shall be demonstrated based upon the record keeping requirements specified in d)(5)b.

l. Emission Limitation:

There shall be no more than four BMC mixers at the facility in active service.

Applicable Compliance Method:

Compliance shall be demonstrated based upon the record keeping requirements specified in d)(6)d.

m. Emission Limitation:

Particulate emissions from this emissions unit shall not exceed 0.551 pound per hour.

Applicable Compliance Method:

If required, compliance shall be demonstrated based upon an emission test performed in accordance with the methods and procedures specified in 40 CFR Part 60, Appendix A, Methods 1 through 5.

g) Miscellaneous Requirements

- (1) None.