Ohio Environmental Protection Agency

John R. Kasich, Governor
Mary Taylor, Lt. Governor
Craig W. Butler, Director

6/17/2016

Certified Mail

No	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
No	MAJOR GHG
No	SYNTHETIC MINOR TO AVOID MAJOR GHG

Alan Hartke
FERRO CORPORATION - CLEVELAND FRIT PLANT
4150 East 56th Street
Cleveland, OH 44105

RE: FINALAIR POLLUTION PERMIT-TO-INSTALL
Facility ID: 1318170235
Permit Number: P0120647
Permit Type: Administrative Modification
County: Cuyahoga

Dear Permit Holder:

Enclosed please find a final Ohio Environmental Protection Agency (EPA)Air Pollution Permit-to-Install (PTI) which will allow you to install or modify the described emissions unit(s) in a manner indicated in the permit. Because this permit contains several conditions and restrictions, we urge you to read it carefully. Because this permit contains conditions and restrictions, please read it very carefully. In this letter you will find the information on the following topics:

- **How to appeal this permit**
- **How to save money, reduce pollution and reduce energy consumption**
- **How to give us feedback on your permitting experience**
- **How to get an electronic copy of your permit**
- **What should you do if you notice a spill or environmental emergency?**

How to appeal this permit

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 Josh Mandel," 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
77 South High Street, 17th Floor
Columbus, OH 43215

How to save money, reduce pollution and reduce energy consumption

The Ohio EPA is encouraging companies to investigate pollution prevention and energy conservation. Not only will this reduce pollution and energy consumption, but it can also save you money. If you would like to learn ways you can save money while protecting the environment, please contact our Office of Compliance Assistance and Pollution Prevention at (614) 644-3469. Additionally, all or a portion of the capital expenditures related to installing air pollution control equipment under this permit may be eligible for financing and State tax exemptions through the Ohio Air Quality Development Authority (OAQDA) under Ohio Revised Code Section 3706. For more information, see the OAQDA website: www.ohioairquality.org/clean_air

How to give us feedback on your permitting experience

Please complete a survey at www.epa.ohio.gov/survey.aspx and give us feedback on your permitting experience. We value your opinion.

How to get an electronic copy of your permit

This permit can be accessed electronically via the eBusiness Center: Air Services in Microsoft Word format or in Adobe PDF on the Division of Air Pollution Control (DAPC) Web page, www.epa.ohio.gov/dapc by clicking the "Search for Permits" link under the Permitting topic on the Programs tab.

What should you do if you notice a spill or environmental emergency?

Any spill or environmental emergency which may endanger human health or the environment should be reported to the Emergency Response 24-HOUR EMERGENCY SPILL HOTLINE toll-free at (800) 282-9378. Report non-emergency complaints to the appropriate district office or local air agency.

If you have any questions regarding your permit, please contact Cleveland Division of Air Quality at (216)664-2297 or the Office of Compliance Assistance and Pollution Prevention at (614) 644-3469.

Sincerely,

Michael E. Hopkins, P.E.
Assistant Chief, Permitting Section, DAPC

Cc: U.S. EPA
CDAQ; Pennsylvania; Canada

FINAL

Division of Air Pollution Control
Permit-to-Install
for
FERRO CORPORATION - CLEVELAND FRIT PLANT

Facility ID:	1318170235
Permit Number:	P0120647
Permit Type:	Administrative Modification
Issued:	6/17/2016
Effective:	6/17/2016

Ohio Environmental Protection Agency

Division of Air Pollution Control
Permit-to-Install
for
FERRO CORPORATION - CLEVELAND FRIT PLANT

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Authorization

Facility ID:	1318170235
Facility Description:	producer of dry powder specialty glass
Application Number(s):	M0003927
Permit Number:	P0120647
Permit Description:	PTI administrative modification to include additional Preventive Maintenance Plan (PMP) terms and conditions for emissions unit P071 (alcohol milling expansion) for lead emissions to achieve State Implementation Plan (SIP) approval.
Permit Type:	Administrative Modification
Permit Fee:	$0.00
Issue Date:	6/17/2016
Effective Date:	6/17/2016

This document constitutes issuance to:

FERRO CORPORATION - CLEVELAND FRIT PLANT
4150 East 56th Street
Cleveland, OH 44101-1550

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

Ohio Environmental Protection Agency (EPA) District Office or local air agency responsible for processing and administering your permit:

Cleveland Division of Air Quality
2nd Floor
75 Erieview Plaza
Cleveland, OH 44114
(216)664-2297

The above named entity is hereby granted a Permit-to-Install for the 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 emissions unit(s) of environmental pollutants will operate in compliance with applicable State and Federal laws and regulations, and does not constitute expressed or implied assurance that if constructed or modified in accordance with those plans and specifications, the above described emissions unit(s) of pollutants will be granted the necessary permits to operate (air) or NPDES permits as applicable.

This permit is granted subject to the conditions attached hereto.

Ohio Environmental Protection Agency

Craig W. Butler
Director

Authorization (continued)

Permit Number: P0120647
Permit Description: PTI administrative modification to include additional Preventive Maintenance Plan (PMP) terms and conditions for emissions unit P071 (alcohol milling expansion) for lead emissions to achieve State Implementation Plan (SIP) approval.

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

Emissions Unit ID:	**P071**
Company Equipment ID:	FEM (E&SG) Alcohol milling expansion
Superseded Permit Number:	P0116702
General Permit Category and Type:	Not Applicable
Emissions Unit ID:	**P915**
Company Equipment ID:	ESG-Speciality glass melter
Superseded Permit Number:	P0116702
General Permit Category and Type:	Not Applicable

A. Standard Terms and Conditions

1. Federally Enforceable Standard Terms and Conditions

a) All Standard Terms and Conditions are federally enforceable, with the exception of those listed below which are enforceable under State law only:

(1) Standard Term and Condition A.2.a), Severability Clause

(2) Standard Term and Condition A.3.c) through A. 3.e)General Requirements

(3) Standard Term and Condition A.6.c) and A. 6.d), Compliance Requirements

(4) Standard Term and Condition A.9., Reporting Requirements

(5) Standard Term and Condition A.10., Applicability

(6) Standard Term and Condition A.11.b) through A.11.e), Construction of New Source(s) and Authorization to Install

(7) Standard Term and Condition A.14., Public Disclosure

(8) Standard Term and Condition A.15., Additional Reporting Requirements When There Are No Deviations of Federally Enforceable Emission Limitations, Operational Restrictions, or Control Device Operating Parameter Limitations

(9) Standard Term and Condition A.16., Fees

(10) Standard Term and Condition A.17., Permit Transfers

2. Severability Clause

a) A determination that any term or condition of this permit is invalid shall not invalidate the force or effect of any other term or condition thereof, except to the extent that any other term or condition depends in whole or in part for its operation or implementation upon the term or condition declared invalid.

b) All terms and conditions designated in parts B and C of this permit are federally enforceable as a practical matter, if they are required under the Act, or any of its applicable requirements, including relevant provisions designed to limit the potential to emit of a source, are enforceable by the Administrator of the U.S. EPA and the State and by citizens (to the extent allowed by section 304 of the Act) under the Act. Terms and conditions in parts B and C of this permit shall not be federally enforceable and shall be enforceable under State law only, only if specifically identified in this permit as such.

3. General Requirements

a) Any noncompliance with the federally enforceable terms and conditions of this permit constitutes a violation of the Act, and is grounds for enforcement action or for permit revocation, revocation and re-issuance, or modification.

b) It shall not be a defense for the permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the federally enforceable terms and conditions of this permit.

c) This permit may be modified, revoked, or revoked and reissued, for cause. The filing of a request by the permittee for a permit modification, revocation and reissuance, or revocation, or of a notification of planned changes or anticipated noncompliance does not stay any term and condition of this permit.

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

e) The permittee shall furnish to the Director of the Ohio EPA, or an authorized representative of the Director, upon receipt of a written request and within a reasonable time, any information that may be requested to determine whether cause exists for modifying or revoking this permit or to determine compliance with this permit. Upon request, the permittee shall also furnish to the Director or an authorized representative of the Director, copies of records required to be kept by this permit. For information claimed to be confidential in the submittal to the Director, if the Administrator of the U.S. EPA requests such information, the permittee may furnish such records directly to the Administrator along with a claim of confidentiality.

4. Monitoring and Related Record Keeping and Reporting Requirements

a) Except as may otherwise be provided in the terms and conditions for a specific emissions unit, the permittee shall maintain records that include the following, where applicable, for any required monitoring under this permit:

(1) The date, place (as defined in the permit), and time of sampling or measurements.

(2) The date(s) analyses were performed.

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

(4) The analytical techniques or methods used.

(5) The results of such analyses.

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

b) Each record of any monitoring data, testing data, and support information required pursuant to this permit shall be retained for a period of five years from the date the record was created. Support information shall include, but not be limited to all calibration and maintenance records and all original strip-chart recordings for continuous monitoring instrumentation, and copies of all reports required by this permit. Such records may be maintained in computerized form.

c) Except as may otherwise be provided in the terms and conditions for a specific emissions unit, the permittee shall submit required reports in the following manner:

(1) Reports of any required monitoring and/or recordkeeping of federally enforceable information shall be submitted to the Cleveland Division of Air Quality.

(2) Quarterly written reports of (i) any deviations from federally enforceable emissionlimitations, operationalrestrictions, andcontroldeviceoperatingparameterlimitations, excluding deviations resulting from malfunctions reported in accordance with OAC rule 3745-15-06, that have been detected by the testing, monitoring and recordkeeping requirements specified in this permit, (ii) the probable cause of such deviations, and (iii) any corrective actions or preventive measures taken, shall be made to the Cleveland Division of Air Quality. The written reports shall be submitted (i.e., postmarked) quarterly, by January 31, April 30, July 31, and October 31 of each year and shall cover the previous calendar quarters. See A.15. below if no deviations occurred during the quarter.

(3) Written reports, which identify any deviations from the federally enforceable monitoring, recordkeeping, andreportingrequirements contained in this permit shall be submitted to the Cleveland Division of Air Quality every six months, by January 31 and July 31 of each year for the previous six calendar months. If no deviations occurred during a six-month period, the permittee shall submit a semi-annual report, which states that no deviations occurred during that period.

(4) This permit is for an emissions unit located at a Title V facility. Each written report shall be signed by a responsible official certifying that, based on information and belief formed after reasonable inquiry, the statements and information in the report are true, accurate, and complete.

d) The permittee shall report actual emissions pursuant to OAC Chapter 3745-78 for the purpose of collecting Air Pollution Control Fees.

5. Scheduled Maintenance/Malfunction Reporting

Any scheduled maintenance of air pollution control equipment shall be performed in accordance with paragraph (A) of OAC rule 3745-15-06. The malfunction, i.e., upset, of any emissions units or any associated air pollution control system(s) shall be reported to theCleveland Division of Air Qualityin accordance with paragraph (B) of OAC rule 3745-15-06. (The definition of an upset condition shall be the same as that used in OAC rule 3745-15-06(B)(1) for a malfunction.) The verbal and written reports shall be submitted pursuant to OAC rule 3745-15-06.

Except as provided in that rule, any scheduled maintenance or malfunction necessitating the shutdown or bypassing of any air pollution control system(s) shall be accompanied by the shutdown of the emission unit(s) that is (are) served by such control system(s).

6. Compliance Requirements

a) All applications, notifications or reports required by terms and conditions in this permit to be submitted or "reported in writing" are to be submitted to Ohio EPA through the Ohio EPA's eBusiness Center: Air Services web service ("Air Services"). Ohio EPA will accept hard copy submittals on an as-needed basis if the permittee cannot submit the required documents through the Ohio EPA eBusiness Center. In the event of an alternative hard copy submission in lieu of the eBusiness Center, the post-marked date or the date the document is delivered in person will be recognized as the date submitted. Electronic submission of applications, notifications or reports required to be submitted to Ohio EPA fulfills the requirement to submit the required information to the Director, the appropriate Ohio EPA District Office or contracted

local air agency, and/or any other individual or organization specifically identified as an additional recipient identified in this permit unless otherwise specified. Consistent with OAC rule 3745-15-03, the electronic signature date shall constitute the date that the required application, notification or report is considered to be "submitted". Any document requiring signature may be represented by entry of the personal identification number (PIN) by responsible official as part of the electronic submission process or by the scanned attestation document signed by the Authorized Representative that is attached to the electronically submitted written report.

Any document (including reports) required to be submitted and required by a federally applicable requirement in this permit shall include a certification by a Responsible Official that, based on information and belief formed after reasonable inquiry, the statements in the document are true, accurate, and complete.

b) Upon presentation of credentials and other documents as may be required by law, the permittee shall allow the Director of the Ohio EPA or an authorized representative of the Director to:

(1) At reasonable times, enter upon the permittee's premises where a source is located or the emissions-related activity is conducted, or where records must be kept under the conditions of this permit.

(2) Have access to and copy, at reasonable times, any records that must be kept under the conditions of this permit, subject to the protection from disclosure to the public of confidential information consistent with ORC section 3704.08.

(3) Inspect at reasonable times any facilities, equipment (including monitoring and air pollution control equipment), practices, or operations regulated or required under this permit.

(4) As authorized by the Act, sample or monitor at reasonable times substances or parameters for the purpose of assuring compliance with the permit and applicable requirements.

c) The permittee shall submit progress reports to the Cleveland Division of Air Quality concerning any schedule of compliance for meeting an applicable requirement. Progress reports shall be submitted semiannually or more frequently if specified in the applicable requirement or by the Director of the Ohio EPA. Progress reports shall contain the following:

(1) Dates for achieving the activities, milestones, or compliance required in any schedule of compliance, and dates when such activities, milestones, or compliance were achieved.

(2) An explanation of why any dates in any schedule of compliance were not or will not be met, and any preventive or corrective measures adopted.

7. Best Available Technology

As specified in OAC Rule 3745-31-05, new sources that must employ Best Available Technology (BAT) shall comply with the Applicable Emission Limitations/Control Measures identified as BAT for each subject emissions unit.

8. Air Pollution Nuisance

The air contaminants emitted by the emissions units covered by this permit shall not cause a public nuisance, in violation of OAC rule 3745-15-07.

9. Reporting Requirements

The permittee shall submit required reports in the following manner:

a) Reports of any required monitoring and/or recordkeeping of state-only enforceable information shall be submitted to the Cleveland Division of Air Quality.

b) Except as otherwise may be provided in the terms and conditions for a specific emissions unit, quarterly written reports of (a) any deviations (excursions) from state-only required emission limitations, operational restrictions, and control device operating parameter limitations that have been detected by the testing, monitoring, and recordkeeping requirements specified in this permit, (b) the probable cause of such deviations, and (c) any corrective actions or preventive measures which have been or will be taken, shall be submitted to the Cleveland Division of Air Quality. If no deviations occurred during a calendar quarter, the permittee shall submit a quarterly report, which states that no deviations occurred during that quarter. The reports shall be submitted quarterly, by January 31, April 30, July 31, and October 31 of each year and shall cover the previous calendar quarters. (These quarterly reports shall exclude deviations resulting from malfunctions reported in accordance with OAC rule 3745-15-06.)

10. Applicability

This Permit-to-Install is applicable only to the emissions unit(s) identified in the Permit-to-Install. Separate application must be made to the Director for the installation or modification of any other emissions unit(s)not exempt from the requirement to obtain a Permit-to-Install.

11. Construction of New Sources(s) and Authorization to Install

a) This permit does not constitute an assurance that the proposed source will operate in compliance with all Ohio laws and regulations. This permit does not constitute expressed or implied assurance that the proposed facility has been constructed in accordance with the application and terms and conditions of this permit. The action of beginning and/or completing construction prior to obtaining the Director's approval constitutes a violation of OAC rule 3745-31-02. Furthermore, issuance of this permit does not constitute an assurance that the proposed source will operate in compliance with all Ohio laws and regulations. Issuance of this permit is not to be construed as a waiver of any rights that the Ohio Environmental Protection Agency (or other persons) may have against the applicant for starting construction prior to the effective date of the permit. Additional facilities shall be installed upon orders of the Ohio Environmental Protection Agency if the proposed facilities cannot meet the requirements of this permit or cannot meet applicable standards.

b) If applicable, authorization to install any new emissions unit included in this permit shall terminate within eighteen months of the effective date of the permit if the owner or operator has not undertaken a continuing program of installation or has not entered into a binding contractual obligation to undertake and complete within a reasonable time a continuing program of installation. This deadline may be extended by up to 12 months if application is made to the

Director within a reasonable time before the termination date and the permittee shows good cause for any such extension.

c) The permittee may notify Ohio EPA of any emissions unit that is permanently shut down (i.e., 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) by submitting a certification from the authorized official that identifies the date on which the emissions unit was permanently shut down. Authorization to operate the affected emissions unit shall cease upon the date certified by the authorized official that the emissions unit was permanently shut down. At a minimum, notification of permanent shut down shall be made or confirmed by marking the affected emissions unit(s) as "permanently shut down" in "Air Services" along with the date the emissions unit(s) was permanently removed and/or disabled. Submitting the facility profile update electronically will constitute notifying the Director of the permanent shutdown of the affected emissions unit(s).

d) The provisions of this permit shall cease to be enforceable for each affected emissions unit after the date on which an emissions unit is permanently shut down (i.e., 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). All records relating to any permanently shutdown emissions unit, generated while the emissions unit was in operation, must be maintained in accordance with law. All reports required by this permit must be submitted for any period an affected emissions unit operated prior to permanent shut down. At a minimum, the permit requirements must be evaluated as part of the reporting requirements identified in this permit covering the last period the emissions unit operated.

Unless otherwise exempted,no emissions unit certified by the responsible official as being permanently shut down may resume operation without first applying for and obtaining a permit pursuant to OAC Chapter 3745-31 and OAC Chapter 3745-77 if the restarted operation is subject to one or more applicable requirements.

e) The permittee shall comply with any residual requirements related to this permit, such as the requirement to submit a deviation report, air fee emission report, or other any reporting required by this permit for the period the operating provisions of this permit were enforceable, or as required by regulation or law. All reports shall be submitted in a form and manner prescribed by the Director. All records relating to this permit must be maintained in accordance with law.

12. Permit-To-Operate Application

The permittee is required to apply for a Title V permit pursuant to OAC Chapter 3745-77. The permittee shall submit a complete Title V permit application or a complete Title V permit modification application within twelve (12) months after commencing operation of the emissions units covered by this permit. However, if operation of the proposed new or modified source(s) as authorized by this permit would be prohibited by the terms and conditions of an existing Title V permit, a Title V permit modification of such new or modified source(s) pursuant to OAC rule 3745-77-04(D) and OAC rule 3745-77-08(C)(3)(d)must be <u>obtained before</u>operating the source in a manner that would violate the existing Title V permit requirements.

13. Construction Compliance Certification

The applicant shall identify the following dates in the "Air Services"facility profile for each new emissions unit identified in this permit.

a) Completion of initial installation date shall be enteredupon completion of construction and prior to start-up.

b) Commence operation after installation or latest modification date shall be entered within 90 days after commencing operation of the applicable emissions unit.

14. Public Disclosure

The facility is hereby notified that this permit, and all agency records concerning the operation of this permitted source, are subject to public disclosure in accordance with OAC rule 3745-49-03.

15. Additional Reporting Requirements When There Are No Deviations of Federally Enforceable Emission Limitations, Operational Restrictions, or Control Device Operating Parameter Limitations

If no deviations occurred during a calendar quarter, the permittee shall submit a quarterly report, which states that no deviations occurred during that quarter. The reports shall be submitted quarterly by January 31, April 30, July 31, and October 31 of each year and shall cover the previous calendar quarters.

16. Fees

The permittee shall pay fees to the Director of the Ohio EPA in accordance with ORC section 3745.11 and OAC Chapter 3745-78. The permittee shall pay all applicable permit-to-install fees within 30 days after the issuance of any permit-to-install. The permittee shall pay all applicable permit-to-operate fees within thirty days of the issuance of the invoice.

17. Permit Transfers

Any transferee of this permit shall assume the responsibilities of the prior permit holder. The new owner must update and submit the ownership information via the "Owner/Contact Change" functionality in "Air Services" once the transfer is legally completed.The change must be submitted through "Air Services" within thirty days of the ownership transfer date.

18. Risk Management Plans

If the permittee is required to develop and register a risk management plan pursuant to section 112(r) of the Clean Air Act, as amended, 42 U.S.C. 7401 et seq. ("Act"), the permittee shall comply with the requirement to register such a plan.

19. Title IV Provisions

If the permittee is subject to the requirements of 40 CFR Part 72 concerning acid rain, the permittee shall ensure that any affected emissions unit complies with those requirements. Emissions exceeding any allowances that are lawfully held under Title IV of the Act, or any regulations adopted thereunder, are prohibited.

B. Facility-Wide Terms and Conditions

1. All the following facility-wide terms and conditions are federally enforceable with the exception of those listed below which are enforceable under state law only:

   a) None.

2. The following are specific State Implementation Plan (SIP) required elements of the Preventive Maintenance Plan (PMP) applicable to emissions units P064 – P069 and P071:

   a) The PMP shall require the following inspections:

      (1) a visual inspection of the interior of all lead dust collectors on a semi-annual basis, at a minimum;

      (2) an inspection of all lead dust collector mechanical elements on a quarterly basis, at a minimum; and

      (3) an annual inspection of all lead dust collector electronic controls on an annual basis, at a minimum.

   b) The PMP shall require all lead dust collector cartridges be replaced on annual basis, at a minimum.

   c) The permittee shall maintain records of all inspections and maintenance performed on the lead dust collectors. Records of each inspection shall include:

      (1) the date and time of each inspection or maintenance activity;

      (2) the activities performed; and

      (3) the results of the activities performed.

   d) If any of the above inspections identifies an issue warranting shutdown of lead activities for the relevant emissions unit(s), the permittee shall shutdown lead production for the relevant emissions unit(s) until the issue is addressed. The permittee shall maintain records of the following information for each issue leading to shutdown:

      (1) the date and time the issue began;

      (2) the emissions unit(s) that was shutdown;

      (3) the date the investigation was conducted;

      (4) the name(s) of the personnel who conducted the investigation;

      (5) the recommended corrective action(s);

      (6) the corrective action taken;

      (7) the name(s) of the personnel who performed the corrective action; and

      (8) the date and time the emissions unit(s) resumed operation.

e) Issues warranting a shutdown of the lead activities for the relevant emissions unit(s) include, but are not limited to, the following:

(1) a fabric filter bag leak detection system alarm;

(2) a deviation of the permitted pressure drop range recorded at the lead dust collector;

(3) observation of any visible particulate emissions from a lead dust collector; or

(4) any other conditions resulting in excessive fugitive emissions from lead activities.

f) The permittee shall continuously monitor the pressure drop across all lead dust collectors. The permittee shall record the pressure drop across the lead dust collectors on a weekly basis.

Whenever the monitored value for the pressure drop deviates from the limit or range established in accordance with the permit, the permittee shall promptly investigate the cause of the deviation. The permittee shall maintain records of the following information for each investigation:

(1) the date and time the deviation began;

(2) the date the investigation was conducted;

(3) the name(s) of the personnel who conducted the investigation;

(4) and the findings and recommendations.

In response to each required investigation to determine the cause of a deviation, the permittee shall take prompt corrective action to bring the operation of the control equipment within the acceptable range specified in the permit, unless the permittee determines that corrective action is not necessary and documents the reasons for that determination and the date and time the deviation ended. The permittee shall maintain records of the following information for each corrective action taken:

(5) a description of the corrective action;

(6) the date corrective action was completed;

(7) the date and time the deviation ended;

(8) the total period of time (in minutes) during which there was a deviation;

(9) the pressure drop readings immediately after the corrective action was implemented; and

(10) the name(s) of the personnel who performed the work.

g) Each record shall be retained for a period of five years from the date the record was created.

C. Emissions Unit Terms and Conditions

1. P071, FEM (E&SG) Alcohol milling expansion

Operations, Property and/or Equipment Description:

Twelve (12) Mills (eleven wet mills and one dry mill) and seven (7) Friction Dryers for drying methyl and isopropyl alcohol from fine particle specialty glass equipped with a packed bed scrubber for control of VOC emissions and a baghouse and HEPA filter for control of particulate emissions.

a) The following emissions unit terms and conditions are federally enforceable with the exception of those listed below which are enforceable under state law only.

(1) g)(1).

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 3745-31-05(A)(3), as effective 11/30/2001 See g)(2) below.	Volatile organic compounds (VOC) emissions shall not exceed 1.15 lbs/hr and 5.03 tons/yr. Lead emissions shall not exceed 0.002 lb/hr and 0.009 ton/yr. Particulate emissions shall not exceed 2.41 tons/yr. Visible particulate emissions from the stack serving this emissions unit shall not exceed 5% opacity, as a six-minute average. The requirements of this rule also include compliance with the requirements of OAC rule and 3745-17-11(B). See b)(2)c. below.
b.	OAC rule 3745-31-05(A)(3)(a)(ii), as effective 12/01/06	See b)(2)b. below.

	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
c.	OAC rule 3745-17-07(A)	Visible particulate emissions from the stack serving this emissions unit shall not exceed 20% opacity, as a six-minute average, except as provided by rule. See b)(2)d. below.
d.	OAC rule 3745-17-11(B)	Particulate emissions shall not exceed 0.551 lb/hr. See b)(2)d. below.
e.	OAC rule 3745-31-05(F)	Lead emissions shall not exceed 0.002 lb/hr and 0.009 ton/year. These limits shall apply after the SIP is approved per b)(2)d. below.

(2) Additional Terms and Conditions

a. The process includes 12 mills (eleven wet mills and one dry mill) and seven dryers. The maximum rate of frit production for all mills and dryers combined is 80.3 lbs/hr. Up to 23 pounds is either methyl alcohol or isopropyl alcohol that is evaporated during 72-hour batch cycles, except for mill #12 which is a 96-hour batch cycle.

b. This rule paragraph applies once U.S. EPA approves the December 1, 2006 version of OAC rule 3745-31-05 as part of the State Implementation Plan.

The BAT requirements under OAC rule 3745-31-05(A)(3)(a)(ii) do not apply to the VOC, particulate or lead emissions from this emissions unit since the potential to emit for VOC, particulate and lead are each less than ten tons per year. The permittee has voluntarily agreed to the use of a scrubber for VOC emissions and a baghouse and HEPA filter for particulate and lead emissions.

c. The permittee has satisfied the Best Available Technology (BAT) requirements pursuant to Ohio Administrative Code (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 the Ohio Revised Code (ORC) changes effective August 3, 2006 (Senate Bill 265 changes), such that BAT is no longer required by State regulations for National Ambient Air Quality Standards (NAAQS) pollutant(s) 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 OAC rule 3745-31-05, these emission limitations/control measures no longer apply.

d. Until the U.S. EPA approves Ohio's SIP, the more stringent or equivalent limits established under OAC rule 3745-31-05(A)(3) shall apply. Upon Ohio's SIP approval, the rule based limits under OAC rule 3745-17-07(A), 17-11(B) and 31-05(F) shall go into effect.

c) Operational Restrictions

(1) The pressure drop across the scrubber shall be continuously maintained at a value of not less than 3.5 inches of water at all times while the emissions unit is in operation.

(2) The scrubber water flow rate shall be continuously maintained at a value of not less than 5.5gallons per minute at all times while the emissions unit is in operation.

(3) The pressure drop across the baghouse shall be maintained within the range of 0.5 to 8.0 inches of water while the emissions unit is in operation.

(4) The permitee shall operate a HEPA filter at all times while this emissions unit is in operation.

(5) The permittee shall operate the baghouse for this emissions unit in accordance with the currently approved Preventative Maintenance Plan (PMP), originally submitted on February 22, 2012 to the Ohio EPA and the PMP SIP requirements identified in Section B.2. The PMP shall serve as an operational restriction for the baghouse. Any future revisions to the PMP must be approved by the Cleveland DAQ; however, any revisions to the requirements identified in Section B.2 must be approved as a part of Ohio's SIP prior to implementation.

d) Monitoring and/or Recordkeeping Requirements

(1) The permittee shall properly operate and maintain equipment to continuously monitor the static pressure drop across the scrubber and the scrubber water flow rate while the emissions unit is in operation. The monitoring devices and any recorders shall be calibrated, operated and maintained in accordance with the manufacturer's recommendations, instructions and operating manuals.

(2) The permittee shall collect and record the following information for each day this emissions unit is in operation:

a. the pressure drop across the scrubber, in inches of water, on a daily basis***;***

b. the scrubber water flow rate, in gallons per minute, on a daily basis; and

c. the operating times for the capture (collection) system, control device, monitoring equipment, and the associated emissions unit.

(3) The permittee shall maintain records of frit, methanol and isopropyl alcohol processed in this emissions unit in pounds.

(4) The permittee shall properly operate and maintain equipment to continuously monitor the pressure drop, in inches of water, across the baghouse when the controlled emissions unit(s) is/are in operation, including periods of startup and shutdown. The permittee shall record the pressure drop across the baghouse on a daily basis. The monitoring equipment shall be calibrated, operated, and maintained in accordance with the manufacturer's recommendations, instructions, and operating manual(s), with any modifications deemed necessary by the permittee.

Whenever the monitored value for the pressure drop deviates from the limit or range established in accordance with this permit, the permittee shall promptly investigate the cause of the deviation. The permittee shall maintain records of the following information for each investigation:

a. the date and time the deviation began;

b. the magnitude of the deviation at that time;

c. the date the investigation was conducted;

d. the name(s) of the personnel who conducted the investigation; and

e. the findings and recommendations.

In response to each required investigation to determine the cause of a deviation, the permittee shall take prompt corrective action to bring the operation of the control equipment within the acceptable range specified in this permit, unless the permittee determines that corrective action is not necessary and documents the reasons for that determination and the date and time the deviation ended. The permittee shall maintain records of the following information for each corrective action taken:

f. a description of the corrective action;

g. the date corrective action was completed;

h. the date and time the deviation ended;

i. the total period of time (in minutes) during which there was a deviation;

j. the pressure drop readings immediately after the corrective action was implemented; and

k. the name(s) of the personnel who performed the work.

Investigation and records required by this paragraph do not eliminate the need to comply with the requirements of OAC rule 3745-15-06 if it is determined that a malfunction has occurred.

This range or limit on the pressure drop across the baghouse is effective for the duration of this permit, unless revisions are requested by the permittee and approved in writing by the Cleveland DAQ. The permittee may request revisions to the permitted limit or range for the pressure drop based upon information obtained during future testing that

demonstrate compliance with the allowable particulate emission rate for the controlled emissions unit(s). In addition, approved revisions to the range or limit will not constitute a relaxation of the monitoring requirements of this permit and may be incorporated into this permit by means of a minor permit modification.

(5) The permittee shall perform daily checks, when the emissions unit is in operation and when the weather conditions allow, for any visible particulate emissions from the baghouse stack 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 the operations 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.

(6) The permittee shall install, calibrate, maintain, and continuously operate a fabric filter bag leak detection system, in accordance with the system manufacturer's instructions, to monitor the baghouse performance. For this purpose, the term "fabric filter bag leak detection system" means a system that is capable of continuously monitoring relative particulate emissions (dust) loadings in the exhaust of a baghouse in order to detect bag leaks and other upset conditions.

(7) The fabric filter bag leak detection system must be equipped with an alarm system that will sound when an increase in relative particulate emissions loading is detected over a preset level, and the alarm must be located such that it can be heard by the appropriate plant personnel.

(8) If the fabric filter bag leak detection system alarms, the permittee shall initiate investigation of the baghouse and/or emissions unit(s) within one (1) hour of the first discovery of the alarming incident for possible corrective action. If corrective action is required, the permittee shall proceed to implement such corrective action, in accordance with a written corrective action plan, as soon as practicable in order to minimize possible

exceedances of the emission limitations established in b)(1). The corrective action plan shall include, at a minimum, the following provisions:

a. inspecting the baghouse for air leaks, torn or broken bags or filter media, or any other condition that may cause an increase in emissions;

b. sealing off defective bags or filter media;

c. replacing defective bags or filter media, or otherwise repairing the control device;

d. sealing off a defective baghouse compartment;

e. cleaning the bag leak detection system probe, or otherwise repairing the bag leak detection system; and

f. shutting down the milling operations.

The permittee shall maintain records of each bag leak detection system alarm, including the date and time of the alarm, the amount of time taken for corrective action to be initiated, the cause of the alarm, an explanation of the corrective actions taken, and when the cause of the alarm was corrected.

(9) The permittee shall maintain records of all inspections and maintenance performed on the fabric filter bag leak detection system. Records shall include the date and time of each inspection or maintenance activity; the activities performed; and the results of any drift checks and response tests.

(10) Within 60 days after the effective date of this permit, the permittee shall conduct monthly QA checks and annual instrument set ups of the fabric filter bag leak detection system consistent with the guidance provided in EPA-454/R-98-015: U.S. EPA Fabric Filter Bag Leak Detection Guidance.

e) Reporting Requirements

(1) The permittee shall submit quarterly deviation (excursion) reports to the Cleveland Division of Air Quality (Cleveland DAQ) that identify all periods of time during which the following scrubber parameters were not maintained at or above the required levels:

a. the static pressure drop across the scrubber; and

b. the scrubber water flow rate.

(2) The permittee shall submit quarterly deviation (excursion) reports to the Cleveland DAQ that identify the following information:

a. each period of time (start time and date, and end time and date) when the pressure drop across the baghouse was outside of the acceptable range;

b. any period of time (start time and date, and end time and date) when the emissions unit(s) was/were in operation and the process emissions were not vented to the baghouse;

c. each incident of deviation described in “a” (above) where a prompt investigation was not conducted;

d. each incident of deviation described in “a” where prompt corrective action, that would bring the pressure drop into compliance with the acceptable range, was determined to be necessary and was not taken; and

e. each incident of deviation described in “a” where proper records were not maintained for the investigation and/or the corrective action(s), as identified in the monitoring and record keeping requirements of this permit.

(3) The permittee shall submit quarterly deviation (excursion) reports to the Cleveland DAQ in accordance with the monitoring requirements for visible emissions in d)(5) above that identify the following information:

a. all days during which any visible particulate emissions were observed from the baghouse stack serving this emissions unit; and

b. any corrective actions taken to minimize or eliminate the visible particulate emissions.

(4) The permittee shall submit quarterly deviation (excursion) reports to the Cleveland DAQ that identify the following:

a. all periods of time in which the bag leak detection alarm system was triggered; and

b. all periods of time (including the date) in which the permittee did not initiate corrective actions within 1 hour of an alarm from the bag leak detection system.

(5) 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.

(6) 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.

f) Testing Requirements

(1) Compliance with the Emissions Limitations and/or Control Requirements specified in b) of these terms and conditions shall be determined in accordance with the following methods:

a. <u>Emission Limitation:</u>
Visible particulate emissions (PE) shall not exceed 20% opacity, as a six-minute average, except as provided by rule.\

Applicable Compliance Method:
Compliance shall be determined by visible emission observations performed in accordance with USEPA Reference Method 9 and the procedures specified in OAC rule 3745-17-03 (B)(1).

b. Emission Limitation:
Particulate emissions shall not exceed 0.551 lb/hr.

Applicable Compliance Method:
Compliance with the hourly emission limit shall be based on use of the emission factor* for PE (0.12 lb per ton of material produced with baghouse controls) which is multiplied by the maximum frit production rate for the emissions unit (80.3 lbs/hr) and the factor of (1.0 – 0.995) which is the control efficiency of the HEPA filter to arrive at the lb/hr emission rate.

*U.S. EPA reference document AP-42, 5th edition Compilation of Air Pollution Emission Factors, Chapter 11.7, Table 11.7-1 (7/96)

If required, the permittee shall demonstrate compliance with this emission limitation through emission testing performed in accordance with Methods 1 - 5 of 40 CFR, Part 60, Appendix A.

c. Emission Limitation:
Particulate emissions shall not exceed 2.41 tons/yr.

Applicable Compliance Method:
Provided compliance is maintained with the lb of PE/hr limitation (the annual limitation was calculated by multiplying the hourly limitation by 8,760 hrs/yr, and then dividing by 2,000 lbs/ton), compliance with the tons per year limitation shall also be demonstrated.

d. Emission Limitation:
VOC emissions shall not exceed 1.15 lbs/hr.

Applicable Compliance Method:
Compliance with the lb/hr limitation shall be based on the maximum hourly usage rate of isopropyl alcohol or methanol in the process (23 lbs (100% evaporated during the drying cycle)) which is multiplied by the factor of (1.0 - .95) which is the design efficiency of the scrubber control system to arrive at the lb/hr emission rate.

If required, the permittee shall demonstrate compliance with this emission limitation through emission testing performed in accordance with Method 25 or 25A of 40 CFR, Part 60, Appendix A.

e. Emission Limitation:
VOC emissions shall not exceed 5.03 TPY.

Applicable Compliance Method:
Provided compliance is maintained with the lb VOC/hr limitation (the annual limitation was calculated by multiplying the hourly limitation by 8,760 hrs/yr, and then dividing by 2,000 lbs/ton), compliance with the tons per year limitation shall also be demonstrated.

f. Emission Limitation :

Lead emissions shall not exceed 0.002 lb/hr.

Applicable Compliance Method:

Compliance with the hourly emission limit shall be based on use of the emission factor* for PE (0.12 lb per ton of material produced with baghouse controls) which is multiplied by the maximum frit production rate containing lead for the emissions unit (39.0 lbs/hr) and the factor of (1.0 – 0.995) which is the control efficiency of the HEPA filter to arrive at the lb/hr emission rate.

*U.S. EPA reference document AP-42, 5th edition Compilation of Air Pollution Emission Factors, Chapter 11.7, Table 11.7-1 (7/96)

If required, the permittee shall demonstrate compliance with this emission limitation through emission testing performed in accordance with Method 12 of 40 CFR, Part 60, Appendix A.

g. Emission Limitation:
Lead emissions shall not exceed 0.009 ton/yr.

Applicable Compliance Method:
Provided compliance is maintained with the lb of Lead/hr limitation (the annual limitation was calculated by multiplying the hourly limitation by 8,760 hrs/yr, and then dividing by 2,000 lbs/ton), compliance with the tons per year limitation shall also be demonstrated.

h. Emission Limitation:

Visible particulate emissions from the stack serving this emissions unit shall not exceed 5% opacity, as a six-minute average.

Applicable Compliance Method:
Compliance shall be determined by visible emission observations performed in accordance with USEPA Reference Method 9 and the procedures specified in OAC rule 3745-17-03 (B)(1).

g) Miscellaneous Requirements

(1) Modeling to demonstrate compliance with, the “Toxic Air Contaminant Statute”, ORC 3704.03(F)(4)(b), was not necessary because the emissions unit’s maximum annual emissions for each toxic air contaminant, as defined in OAC rule 3745-114-01, will be less than 1.0 ton per year. OAC Chapter 3745-31 requires permittees to apply for and

obtain a new or modified permit to install prior to making a "modification" as defined by OAC rule 3745-31-01. The permittee is hereby advised that changes in the composition of the materials or use of new materials, which would cause the emissions of any toxic air contaminant to increase to above 1.0 ton per year may require the permittee to apply for and obtain a new permit to install.

(2) The following PTIs have previously been issued for emissions unit P071: PTI 13-0740 issued November 28, 2000; PTI admin mod 13-03740 issued on February 22, 2001; PTI admin mod 13-03740 issued on December 14, 2006; PTI Chapter 31 mod P0104229 issued on February 23, 2009; PTI admin mod P0105111 issued on August 24, 2009; PTI admin mod P0107427 issued on February 16, 2011; PTI admin mod P0110443 issued on October 30, 2012; and PTI admin mod P0116702 issued on July 2, 2014.

2. P915, ESG-Speciality glass melter

Operations, Property and/or Equipment Description:

EMS gas/O2 continuous melter, 1 electric batch melter equipped with a baghouse,
The max. process weight rate is 220 lbs/hr.

a) The following emissions unit terms and conditions are federally enforceable with the exception of those listed below which are enforceable under state law only.

(1) None.

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 3745-31-05(A)(3) See g)(1) below.	Particulate emissions shall not exceed 1.07 lbs /hr and 4.68 tons/yr. Visible particulate emissions from any stack shall not exceed 10% opacity as a 6-minute average. Compliance with this rule also includes compliance with OAC rules 3745-17-07(B) and 3745-17-08(B).
b.	OAC rule 3745-17-07(A)	The visible particulate emission limitation specified by this rule is less stringent than the visible particulate emission limitation established pursuant to OAC rule 3745-31-05(A)(3).
c.	OAC rule 3745-17-07(B)	Visible emissions of fugitive dust shall not exceed 20% opacity as a 3-minute average.
d.	OAC rule 3745-17-08(B)	See b)(2)a. below.

	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
e.	OAC rule 3745-17-11(B)	The particulate emission limitation specified by this rule is less stringent than the particulate emission limitation established pursuant to OAC rule 3745-31-05(A)(3).

(2) Additional Terms and Conditions

a. The permittee shall minimize or eliminate visible emissions of fugitive dust through the employment of reasonably available control measures (RACM). These measures shall include, but not be limited to, the following:

i. the use of hoods, fans, and other equipment to adequately enclose, contain, capture, and vent the fugitive dust to stack; and

ii. the collection efficiency shall be sufficient to minimize or eliminate visible emissions of fugitive dust at the point(s) of capture to the extent possible with good engineering design.

c) Operational Restrictions

(1) The pressure drop across the baghouse shall be maintained within the range of 0.5 to 8.0 inches of water while the emissions unit is in operation.

(2) This emissions unit shall not be used for leaded glass melting.

d) Monitoring and/or Recordkeeping Requirements

(1) The permittee shall properly operate and maintain equipment to continuously monitor the pressure drop, in inches of water, across the baghouse when the controlled emissions unit(s) is/are in operation, including periods of startup and shutdown. The permittee shall record the pressure drop across the baghouse on a daily basis. The monitoring equipment shall be calibrated, operated, and maintained in accordance with the manufacturer's recommendations, instructions, and operating manual(s), with any modifications deemed necessary by the permittee.

Whenever the monitored value for the pressure drop deviates from the limit or range established in accordance with this permit, the permittee shall promptly investigate the cause of the deviation. The permittee shall maintain records of the following information for each investigation:

a. the date and time the deviation began;

b. the magnitude of the deviation at that time;

c. the date the investigation was conducted;

d. the name(s) of the personnel who conducted the investigation; and

e. the findings and recommendations.

In response to each required investigation to determine the cause of a deviation, the permittee shall take prompt corrective action to bring the operation of the control equipment within the acceptable range specified in this permit, unless the permittee determines that corrective action is not necessary and documents the reasons for that determination and the date and time the deviation ended. The permittee shall maintain records of the following information for each corrective action taken:

f. a description of the corrective action;

g. the date corrective action was completed;

h. the date and time the deviation ended;

i. the total period of time (in minutes) during which there was a deviation;

j. the pressure drop readings immediately after the corrective action was implemented; and

k. the name(s) of the personnel who performed the work.

Investigation and records required by this paragraph do not eliminate the need to comply with the requirements of OAC rule 3745-15-06 if it is determined that a malfunction has occurred.

This range or limit on the pressure drop across the baghouse is effective for the duration of this permit, unless revisions are requested by the permittee and approved in writing by the Cleveland DAQ. The permittee may request revisions to the permitted limit or range for the pressure drop based upon information obtained during future testing that demonstrate compliance with the allowable particulate emission rate for the controlled emissions unit(s). In addition, approved revisions to the range or limit will not constitute a relaxation of the monitoring requirements of this permit and may be incorporated into this permit by means of a minor permit modification.

(2) The permittee shall perform daily checks for visible emissions of fugitive dust from the non-stack egress points from the building housing this emissions unit. These egress points shall include, but not be limited to: doorways, windows, and roof monitors. 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 the operations log:

a. the location and 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 install, calibrate, maintain, and continuously operate a fabric filter bag leak detection system, in accordance with the system manufacturer's instructions, to monitor the baghouse performance. For this purpose, the term "fabric filter bag leak detection system" means a system that is capable of continuously monitoring relative particulate emissions (dust) loadings in the exhaust of a baghouse in order to detect bag leaks and other upset conditions.

(4) The fabric filter bag leak detection system must be equipped with an alarm system that will sound when an increase in relative particulate emissions loading is detected over a preset level, and the alarm must be located such that it can be heard by the appropriate plant personnel.

(5) If the fabric filter bag leak detection system alarms, the permittee shall initiate investigation of the baghouse and/or emissions unit(s) within one (1) hour of the first discovery of the alarming incident for possible corrective action. If corrective action is required, the permittee shall proceed to implement such corrective action, in accordance with a written corrective action plan, as soon as practicable in order to minimize possible exceedances of the emission limitations established in b)(1). The corrective action plan shall include, at a minimum, the following provisions:

a. inspecting the baghouse for air leaks, torn or broken bags or filter media, or any other condition that may cause an increase in emissions;

b. sealing off defective bags or filter media;

c. replacing defective bags or filter media, or otherwise repairing the control device;

d. sealing off a defective baghouse compartment;

e. cleaning the bag leak detection system probe, or otherwise repairing the bag leak detection system; and

f. shutting down the milling operations.

(6) The permittee shall maintain records of each bag leak detection system alarm, including the date and time of the alarm, the amount of time taken for corrective action to be initiated, the cause of the alarm, an explanation of the corrective actions taken, and when the cause of the alarm was corrected.

(7) The permittee shall maintain records of all inspections and maintenance performed on the fabric filter bag leak detection system. Records shall include the date and time of each inspection or maintenance activity; the activities performed; and the results of any drift checks and response tests.

(8) Within 60 days after the effective date of this permit, the permittee shall conduct monthly QA checks and annual instrument set ups of the fabric filter bag leak detection system consistent with the guidance provided in EPA-454/R-98-015: U.S. EPA Fabric Filter Bag Leak Detection Guidance.

e) Reporting Requirements

(1) The permittee shall submit quarterly deviation (excursion) reports to the Cleveland DAQ that identify the following information:

a. each period of time (start time and date, and end time and date) when the pressure drop across the baghouse was outside of the acceptable range;

b. any period of time (start time and date, and end time and date) when the emissions unit(s) was/were in operation and the process emissions were not vented to the baghouse;

c. each incident of deviation described in “a” (above) where a prompt investigation was not conducted;

d. each incident of deviation described in “a” where prompt corrective action, that would bring the pressure drop into compliance with the acceptable range, was determined to be necessary and was not taken; and

e. each incident of deviation described in “a” where proper records were not maintained for the investigation and/or the corrective action(s), as identified in the monitoring and record keeping requirements of this permit.

(2) The permittee shall submit semiannual written reports to the Cleveland DAQ that (a) identify all days during which any visible emissions of fugitive dust were observed from the non-stack egress points from the building housing this emissions unit and (b) describe any corrective actions taken to eliminate the visible emissions. These reports shall be submitted by January 31 and July 31 of each year and shall cover the previous 6-month period.

(3) The permittee shall submit quarterly deviation (excursion) reports to the Cleveland DAQ that identify the following:

a. all periods of time in which the bag leak detection alarm system was triggered; and

b. all periods of time (including the date) in which the permittee did not initiate corrective actions within 1 hour of an alarm from the bag leak detection system.

f) Testing Requirements

(1) Compliance with the Emissions Limitations and/or Control Requirements specified in b) of these terms and conditions shall be determined in accordance with the following methods:

a. Emission Limitation:
Visible particulate emissions from any stack shall not exceed 10% opacity as a 6-minute average.

Applicable Compliance Method:
Compliance shall be determined through visible emissions observations performed in accordance with 40 CFR Part 60, Appendix A, Method 9.

b. Emission Limitation:
Particulate emissions shall not exceed 1.07 lbs/hr.

Applicable Compliance Method:
Compliance with the hourly emission limitation may be determined through the use of the U.S. EPA database, FIRE 6.22 emission factor for frit smelting with a fabric filter (0.02 lb/ton) which is multiplied by the maximum production rate for the emissions unit (220 lbs/hr) and divided by 2,000 lbs/ton.

If required, the permittee shall demonstrate compliance with this emission limitation through emission testing performed in accordance with Methods 1-5 of 40 CFR Part 60, Appendix A.

c. Emission Limitation :
Particulate emissions shall not exceed 4.68 TPY.

Applicable Compliance Method :
Provided compliance is maintained with the lb of particulate/hr limitation (the annual limitation was calculated by multiplying the hourly limitation by 8,760 hrs/yr, and then dividing by 2,000 lbs/ton), compliance with the tons per year limitation shall also be demonstrated.

d. Emission Limitation:
Visible emissions of fugitive dust shall not exceed 20% opacity as a 3-minute average.

e. Applicable Compliance Method:
Compliance shall be determined through visible emissions observations performed in accordance with 40 CFR Part 60, Appendix A, Method 9 and the procedures specified in OAC rule 3745-17-03(B)(3). The points of observation for visible emissions shall include any non-stack egress points from the building housing this emissions unit. Such egress points shall include, but are not limited to, doorways, windows, and roof monitors.

g) Miscellaneous Requirements

(1) The following PTIs have previously been issued for emissions unit P915: PTI 13-03201 issued June 2, 1997; PTI Chapter 31 mod 13-03201 issued on November 15, 2005; PTI admin mod P0110443 issued on October 30, 2012; and PTI admin mod P0116702 issued on July 2, 2014.