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

8/11/2014

Genevieve Damico *Via E-Mail Notification*
United States Environmental Protection Agency
Mail Code: AR-18J
77 West Jackson Blvd.
Chicago, IL 60604-3507

RE: PROPOSED AIR POLLUTION TITLE V PERMIT
Facility Name: FERRO CORPORATION - CLEVELAND FRIT PLANT
Facility ID: 1318170235
Permit Type: Minor Permit Modification
Permit Number: P0116851

Dear Ms. Damico:

A proposed OAC Chapter 3745-77 Title V permit for the referenced facility has been issued for review by U.S. EPA. This permit can be accessed electronically 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. If U.S. EPA does not object to this proposed permit, the permit will be processed for issuance as a final action not less than 45 days from the date of this letter. Please contact me at (614) 644-3631 by the end of the 45 day review period if you wish to object to the proposed permit.

Sincerely,

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

Cc: Cleveland Division of Air Quality

PROPOSED

Division of Air Pollution Control
Title V Permit
for
FERRO CORPORATION - CLEVELAND FRIT PLANT

Facility ID:	1318170235
Permit Number:	P0116851
Permit Type:	Minor Permit Modification
Issued:	8/11/2014
Effective:	To be entered upon final issuance
Expiration:	To be entered upon final issuance

Division of Air Pollution Control
Title V Permit
for
FERRO CORPORATION - CLEVELAND FRIT PLANT

Table of Contents

Authorization 1
A. Standard Terms and Conditions 2
1. Federally Enforceable Standard Terms and Conditions 3
2. Monitoring and Related Record Keeping and Reporting Requirements 3
3. Reporting of Any Exceedence of a Federally Enforceable Emission Limitation or Control Requirement Resulting From Scheduled Maintenance 6
4. Risk Management Plans 7
5. Title IV Provisions 7
6. Severability Clause 7
7. General Requirements 7
8. Fees 8
9. Marketable Permit Programs 8
10. Reasonably Anticipated Operating Scenarios 9
11. Reopening for Cause 9
12. Federal and State Enforceability 9
13. Compliance Requirements 9
14. Permit Shield 11
15. Operational Flexibility 11
16. Emergencies 12
17. Off-Permit Changes 12
18. Compliance Method Requirements 12
19. Insignificant Activities or Emissions Levels 13
20. Permit to Install Requirement 13
21. Air Pollution Nuisance 13
22. Permanent Shutdown of an Emissions Unit 13
23. Title VI Provisions 13
24. Reporting Requirements Related to Monitoring and Record Keeping Requirements Under State Law Only 14
25. Records Retention Requirements Under State Law Only 14
26. Inspections and Information Requests 14
27. Scheduled Maintenance/Malfunction Reporting For State-Only Requirements 15
28. Permit Transfers 15

29. Additional Reporting Requirements When There Are No Deviations of Federally Enforceable Emission Limitations, Operational Restrictions, or Control Device Operating Parameter Limitations 15
30. Submitting Documents Required by this Permit 16
B. Facility-Wide Terms and Conditions 17
C. Emissions Unit Terms and Conditions 19
1. P033, Nos.6, 7, 8,10 Batch Ball Mills, No. 9 Cont. Ball Mill 20
2. P034, Dry Batch Ball Mill #12 24
3. P053, Mill 13 28
4. P057, PERC Mikron classification system 32
5. P071, FEM (E&SG) Alcohol milling expansion 35
6. P072, Dry batch ball mill #14 w/Mikron classifier 47
7. P901, Raw material receiving and transport to storage 51
8. P902, Raw material weighing and mixing 58
9. P903, Nos. 1, 2 Continuous Mills, Nos. 4, 5 Batch Mills 63
10. P906, Smelter #3 68
11. P909, Smelter #7 72
12. P910, Smelter #8 76
13. P911, Smelter #9 80
14. P912, Smelter #10 84
15. P915, ESG-Speciality glass melter 91
16. P921, SM#7FF 100
17. P922, SM#8FF 105
18. P923, SM#9FF 110
19. P924, SM#10FF 115
20. P929, SM#24FF 121
21. Emissions Unit Group -1,800 lb/hr smelter mat handling: P917,P927, ... 126
22. Emissions Unit Group -150 lb electric melters: P061,P063, ... 131
23. Emissions Unit Group -2,800 lb/hr frit smelters: P913,P914, ... 136
24. Emissions Unit Group -220 lb electric melters: P064,P065,P066,P067,P068,P069, ... 140
25. Emissions Unit Group -3,000 lb/hr frit smelters: P032,P925, ... 147
26. Emissions Unit Group -3,000 lb/hr smelter mat handling: P918,P926, ... 151

Authorization

Facility ID:	1318170235
Facility Description:	producer of dry powder specialty glass
Application Number(s):	A0050649
Permit Number:	P0116851
Permit Description:	Title V Minor Permit Modification to include the changes outlined in the recently issued PTI administrative modification permits for the following emissions units: P061, P063 - P069, P071 and P915. These changes have resulted in a revision to the lead SIP.
Permit Type:	Minor Permit Modification
Issue Date:	8/11/2014
Effective Date:	To be entered upon final issuance
Expiration Date:	To be entered upon final issuance

Superseded Permit Number: P0110860

This document constitutes issuance of an OAC Chapter 3745-77 Title V permit to:

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

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 Title V permit pursuant to Chapter 3745-77 of the Ohio Administrative Code. This permit and the authorization to operate the air contaminant sources (emissions units) at this facility shall expire at midnight on the expiration date shown above. You will be sent a notice approximately 18 months prior to the expiration date regarding the renewal of this permit. If you do not receive a notice, please contact the Cleveland Division of Air Quality. If a renewal permit is not issued prior to the expiration date, the permittee may continue to operate pursuant to OAC rule 3745-77-08(E) and in accordance with the terms of this permit beyond the expiration date, if a timely renewal application is submitted. A renewal application will be considered timely if it is submitted no earlier than 18 months and no later than 6 months prior to the expiration date.

This permit is granted subject to the conditions attached hereto.

Ohio Environmental Protection Agency

Craig W. Butler
Director

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. 24., Reporting Requirements Related to Monitoring and Record Keeping Requirements of State-Only Enforceable Permit Terms and Conditions

(2) Standard Term and Condition A. 25., Records Retention Requirements for State-Only Enforceable Permit Terms and Conditions

(3) Standard Term and Condition A. 27., Scheduled Maintenance/Malfunction Reporting For State-Only Requirements

(4) Standard Term and Condition A. 29., Additional Reporting Requirements When There Are No Deviations of Federally Enforceable Emission Limitations, Operational Restrictions, or Control Device Operating Parameter Limitations

(5) Standard Term and Condition A. 30.

(Authority for term: ORC 3704.036(A))

2. 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 (i.e., in section C. Emissions Unit Terms and Conditions of this Title V permit), 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.

(Authority for term: OAC rule 3745-77-07(A)(3)(b)(i))

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 all calibration and maintenance records and all original strip-chart recordingsfor continuous monitoring instrumentation, and copies of all reports required by this permit. Such records may be maintained in computerized form.

(Authority for term: OAC rule 3745-77-07(A)(3)(b)(ii))

c) The permittee shall submit required reports in the following manner:

(1) All reporting required in accordance with OAC rule 3745-77-07(A)(3)(c) for deviations caused by malfunctions shall be submitted in the following manner:

Any malfunction, as defined in OAC rule 3745-15-06(B)(1), shall be promptly reported to the Ohio EPA in accordance with OAC rule 3745-15-06. In addition, to fulfill the OAC rule 3745-77-07(A)(3)(c) deviation reporting requirements for malfunctions, written reports that identify each malfunction that occurred during each calendar quarter (including each malfunction reported only verbally in accordance with OAC rule 3745-15-06) shall be submitted by January 31, April 30, July 31, and October 31 of each year in accordance with Standard Term and Condition A.2.c)(2) below; and each report shall cover the previous calendar quarter. An exceedance of the visible emission limitations specified in OAC rule 3745-17-07(A)(1) that is caused by a malfunction is not a violation and does not need to be reported as a deviation if the owner or operator of the affected air contaminant source or air pollution control equipment complies with the requirements of OAC rule 3745-17-07(A)(3)(c).

In accordance with OAC rule 3745-15-06, a malfunction reportable under OAC rule 3745-15-06(B) is a deviation of the federally enforceable permit requirements. Even though verbal notifications and written reports are required for malfunctions pursuant to OAC rule 3745-15-06, the written reports required pursuant to this term must be submitted quarterly to satisfy the prompt reporting provision of OAC rule 3745-77-07(A)(3)(c).

In identifying each deviation caused by a malfunction, the permittee shall specify the emission limitation(s) (or control requirement(s)) for which the deviation occurred, describe each deviation, and provide the magnitude and duration of each deviation. For a specific malfunction, if this information has been provided in a written report that was submitted in accordance with OAC rule 3745-15-06, the permittee may simply reference that written report to identify the deviation. Nevertheless, all malfunctions, including those reported only verbally in accordance with OAC rule 3745-15-06, must be reported in writing on a quarterly basis.

Any submittedscheduled maintenancerequests, as referenced in OAC rule 3745-15-06(A)(1), that results in a deviation from a federally enforceable emission limitation (or control requirement) shall be reported in the same manner as described above for malfunctions.

(Authority for term: OAC rule 3745-77-07(A)(3)(c))

(2) Except as may otherwise be provided in the terms and conditions for a specific emissions unit (i.e., in section C. Emissions Unit Terms and Conditions of this Title V permit or, in some cases, in section B. Facility-Wide Terms and Conditions of this Title V permit), all reporting required in accordance with OAC rule 3745-77-07(A)(3)(c) for deviations of the emission limitations, operational restrictions, and control device operating parameter limitations shall be submitted in the following manner:

Written reports of (a) any deviations from federally enforceable emission limitations, operational restrictions, and control device operating parameter limitations, (b) the

probable cause of such deviations, and (c) any corrective actions or preventive measures taken, shall be submitted promptly to the Cleveland Division of Air Quality. Except as provided below, the written reports shall be submitted by January 31, April 30, July 31, and October 31 of each year; and each report shall cover the previous calendar quarter.

In identifying each deviation, the permittee shall specify the emission limitation(s), operational restriction(s), and/or control device operating parameter limitation(s) for which the deviation occurred, describe each deviation, and provide the estimated magnitude and duration of each deviation.

These written deviation reports shall satisfy the requirements of OAC rule 3745-77-07(A)(3)(c) pertaining to the submission of monitoring reports every six months and to the prompt reporting of all deviations. Full compliance with OAC rule 3745-77-07(A)(3)(c) requires reporting of all other deviations of the federally enforceable requirements specified in the permit as required by such rule.

If an emissions unit has a deviation reporting requirement for a specific emission limitation, operational restriction, or control device operating parameter limitation that is not on a quarterly basis (e.g., within 30 days following the end of the calendar month, or within 30 or 45 days after the exceedance occurs), that deviation reporting requirement satisfies the reporting requirements specified in this Standard Term and Condition for that specific emission limitation, operational restriction, or control device parameter limitation. Following the provisions of that non-quarterly deviation reporting requirement will also satisfy (for the deviations so reported) the requirements of OAC rule 3745-77-07(A)(3)(c) pertaining to the submission of monitoring reports every six months and to the prompt reporting of all deviations, and additional quarterly deviation reports for that specific emission limitation, operational restriction, or control device parameter limitation are not required pursuant to this Standard Term and Condition.

See A.29 below if no deviations occurred during the quarter.

(Authority for term: OAC rule 3745-77-07(A)(3)(c))

(3) All reporting required in accordance with the OAC rule 3745-77-07(A)(3)(c) for other deviations of the federally enforceable permit requirements which are not reported in accordance with Standard Term and Condition A.2)c)(2) above shall be submitted in the following manner:

Unless otherwise specified by rule, written reports that identify deviations of the following federally enforceable requirements contained in this permit; Standard Terms and Conditions: A.3, A.4, A.5, A.7.e), A.8, A.13, A.15, A.19, A.20, A.21, and A.23 of this Title V permit, as well as any deviations from the requirements in section C. Emissions Unit Terms and Conditions of this Title V permit, and any monitoring, record keeping, and reporting requirements, which are not reported in accordance with Standard Term and Condition A.2.c)(2) above shall be submitted to the Cleveland Division of Air Quality by January 31 and July 31 of each year; and each report shall cover the previous six calendar months. Unless otherwise specified by rule, all other deviations from federally enforceable requirements identified in this permit shall be submitted annually as part of the annual compliance certification, including deviations of federally enforceable

requirements not specifically addressed by permit or rule for the insignificant activities or emissions levels (IEU) identified in section B. Facility-Wide Terms and Conditions of this Title V permit. Annual reporting of deviations is deemed adequate to meet the deviation reporting requirements for IEUs unless otherwise specified by permit or rule.

In identifying each deviation, the permittee shall specify the federally enforceable requirement for which the deviation occurred, describe each deviation, and provide the magnitude and duration of each deviation.

These semi-annual and annual written reports shall satisfy the reporting requirements of OAC rule 3745-77-07(A)(3)(c) for any deviations from the federally enforceable requirements contained in this permit that are not reported in accordance with Standard Term and Condition A.2.c)(2) above.

If no such deviations occurred during a six-month period, the permittee shall submit a semi-annual report which states that no such deviations occurred during that period.

(Authority for term: OAC rules 3745-77-07(A)(3)(c)(i) and (ii) and OAC rule 3745-77-07(A)(13)(b))

(4) 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 (including any written malfunction reports required by OAC rule 3745-15-06 that are referenced in the deviation reports) are true, accurate, and complete." Signature by the Responsible Official may be represented by entry of the personal identification number (PIN) by the Responsible Official as part of the electronic submission process or by the scanned attestation document signed by the Responsible Official that is attached to the electronically submitted written report.

(Authority for term: OAC rule 3745-77-07(A)(3)(c)(iv))

(5) Consistent with A.2.c.1. above, reports of any required monitoring and/or record keeping information required to be submitted to Ohio EPA shall be submitted to Cleveland Division of Air Quality unless otherwise specified.

(Authority for term: OAC rule 3745-77-07(A)(3)(c))

3. Reporting of Any Exceedence of a Federally Enforceable Emission Limitation or Control Requirement Resulting From Scheduled Maintenance

Any scheduled maintenance of air pollution control equipment shall be performed in accordance with paragraph (A) of OAC rule 3745-15-06. Except as provided in OAC rule 3745-15-06(A)(3), any scheduled maintenance necessitating the shutdown or bypassing of any air pollution control system(s) shall be accompanied by the shutdown of the emissions unit(s) that is (are) served by such control system(s). Any scheduled maintenance, as defined in OAC rule 3745-15-06(A)(1), that results in a deviation from a federally enforceable emission limitation (or control requirement) shall be reported in the same manner as described for malfunctions in Standard Term and Condition A.2.c)(1) above.

(Authority for term: OAC rule 3745-77-07(A)(3)(c))

4. Risk Management Plans

If applicable, the permittee shall 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"); and, pursuant to 40 C.F.R. 68.215(a), the permittee shall submit either of the following:

a) a compliance plan for meeting the requirements of 40 C.F.R. Part 68 by the date specified in 40 C.F.R. 68.10(a) and OAC 3745-104-05(A); or

b) as part of the compliance certification submitted under 40 C.F.R. 70.6(c)(5), a certification statement that the source is in compliance with all requirements of 40 C.F.R. Part 68 and OAC Chapter 3745-104, including the registration and submission of the risk management plan.

(Authority for term: OAC rule 3745-77-07(A)(4))

5. 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.

(Authority for term: OAC rule 3745-77-07(A)(5))

6. Severability Clause

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.

(Authority for term: OAC rule 3745-77-07(A)(6))

7. 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 reissuance, or modification, or for denial of a permit renewal application.

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 permitexcept as provided pursuant to A.16 below.

c) This permit may be modified, reopened, revoked, or revoked and reissued, for cause, in accordance with A.11 below. 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, reopening 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.

f) Except as otherwise indicated below, this Title V permit, or permit modification, is effective for five years from the original effective date specified in the permit. In the event that this facility becomes eligible for non-title V permits, this permit shall cease to be enforceable when:

(1) the permittee submits an approved facility-wide potential to emit analysis supporting a claim that the facility no longer meets the definition of a "major source" as defined in OAC rule 3745-77-01(W) based on the permanent shutdown and removal of one or more emissions units identified in this permit; or

(2) the permittee no longer meets the definition of a "major source" as defined in OAC rule 3745-77-01(W) based on obtaining restrictions on the facility-wide potential(s) to emit that are federally enforceable or legally and practically enforceable ; or

(3) a combination of (1) and (2) above.

The permittee shall continue to comply with all applicable OAC Chapter 3745-31 requirements for all regulated air contaminant sources once this permit ceases to be enforceable. The permittee shall comply with any residual requirements, such as quarterly deviation reports, semi-annual deviation reports, and annual compliance certifications covering the period during which this Title V permit was enforceable. All records relating to this permit must be maintained in accordance with law.

(Authority for term: OAC rule 3745-77-01(W), OAC rule 3745-77-07(A)(3)(b)(ii), OAC rule 3745-77(A)(7))

8. 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.

(Authority for term: OAC rule 3745-77-07(A)(8))

9. Marketable Permit Programs

No revision of this permit is required under any approved economic incentive, marketable permits, emissions trading, and other similar programs or processes for changes that are provided for in this permit.

(Authority for term: OAC rule 3745-77-07(A)(9))

10. Reasonably Anticipated Operating Scenarios

The permittee is hereby authorized to make changes among operating scenarios authorized in this permit without notice to the Ohio EPA, but, contemporaneous with making a change from one operating scenario to another, the permittee must record in a log at the permitted facility the scenario under which the permittee is operating. The permit shield provided in these standard terms and conditions shall apply to all operating scenarios authorized in this permit.

(Authority for term: OAC rule 3745-77-07(A)(10))

11. Reopening for Cause

This Title V permit will be reopened prior to its expiration date under the following conditions:

a) Additional applicable requirements under the Act become applicable to one or more emissions units covered by this permit, and this permit has a remaining term of three or more years. Such a reopening shall be completed not later than eighteen (18) months after promulgation of the applicable requirement. No such reopening is required if the effective date of the requirement is later than the date on which the permit is due to expire, unless the original permit or any of its terms and conditions has been extended pursuant to paragraph (E)(1) of OAC rule 3745-77-08.

b) This permit is issued to an affected source under the acid rain program and additional requirements (including excess emissions requirements) become applicable. Upon approval by the Administrator, excess emissions offset plans shall be deemed to be incorporated into the permit, and shall not require a reopening of this permit.

c) The Director of the Ohio EPA or the Administrator of the U.S. EPA determines that the federally applicable requirements in this permit are based on a material mistake, or that inaccurate statements were made in establishing the emissions standards or other terms and conditions of this permit related to such federally applicable requirements.

d) The Administrator of the U.S. EPA or the Director of the Ohio EPA determines that this permit must be revised or revoked to assure compliance with the applicable requirements.

(Authority for term: OAC rules 3745-77-07(A)(12) and 3745-77-08(D))

12. Federal and State Enforceability

Only those terms and conditions designated in this permit as federally enforceable, that 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, the State, and citizens under the Act. All other terms and conditions of this permit shall not be federally enforceable and shall be enforceable under State law only.

(Authority for term: OAC rule 3745-77-07(B))

13. Compliance Requirements

a) Any document (including reports) required to be submitted and required by a federally applicable requirement in this Title V permit shall include a certification by a Responsible

Officialthat, 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 paragraph (E) of OAC rule 3745-77-03.

(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.

d) Compliance certifications concerning the terms and conditions contained in this permit that are federally enforceable emission limitations, standards, or work practices, shall be submitted to the Director (the Cleveland Division of Air Quality) and the Administrator of the U.S. EPA in the following manner and with the following content:

(1) Compliance certifications shall be submitted annually on a calendar year basis. The annual certification shall be submitted on or before April 30th of each year during the permit term.

(2) Compliance certifications shall include the following:

a. Identification of each term or condition that is the basis of the certification. The identification may include a statement by the Responsible Official that every term and condition that is federally enforceable has been reviewed, and such terms and conditions with which there has been continuous compliance throughout the year are not separately identified.

b. The permittee's current compliance status.

c. Whether compliance was continuous or intermittentconsistent with A.13.d.2.a above.

d. The method(s) used for determining the compliance status of the source currently and over the required reporting period consistent with A.13.d.2.a above.

e. Such other facts as the Director of the Ohio EPA may require in the permit to determine the compliance status of the source.

(3) Compliance certifications shall contain such additional requirements as may be specified pursuant to sections 114(a)(3) and 504(b) of the Act.

(Authority for term: OAC rules 3745-77-07(C)(1),(2),(4) and (5) and ORC section 3704.03(L))

14. Permit Shield

a) Compliance with the terms and conditions of this permit (including terms and conditions established for alternate operating scenarios, emissions trading, and emissions averaging, but excluding terms and conditions for which the permit shield is expressly prohibited under OAC rule 3745-77-07) shall be deemed compliance with the applicable requirements identified and addressed in this permit as of the date of permit issuance.

b) This permit shield provision shall apply to any requirement identified in this permit pursuant to OAC rule 3745-77-07(F)(2), as a requirement that does not apply to the source or to one or more emissions units within the source.

(Authority for term: OAC rule 3745-77-07(F))

15. Operational Flexibility

The permittee is authorized to make the changes identified in OAC rule 3745-77-07(H)(1)(a) to (H)(1)(c) within the permitted stationary source without obtaining a permit revision, if such change is not a modification under any provision of Title I of the Act [as defined in OAC rule 3745-77-01(JJ)], and does not result in an exceedance of the emissions allowed under this permit (whether expressed therein as a rate of emissions or in terms of total emissions), and the permittee provides the Administrator of the U.S. EPA and the Cleveland Division of Air Quality with written notification within a minimum of seven days in advance of the proposed changes, unless the change is associated with, or in response to, emergency conditions. If less than seven days notice is provided because of a need to respond more quickly to such emergency conditions, the permittee shall provide notice to the Administrator of the U.S. EPA and the Cleveland Division of Air Quality as soon as possible after learning of the need to make the change. The notification shall contain the items required under OAC rule 3745-77-07(H)(2)(d).

(Authority for term: OAC rules 3745-77-07(H)(1) and (2))

16. Emergencies

The permittee shall have an affirmative defense of emergency to an action brought for noncompliance with technology-based emission limitations if the conditions of OAC rule 3745-77-07(G)(3) are met. This emergency defense provision is in addition to any emergency or upset provision contained in any applicable requirement.

(Authority for term: OAC rule 3745-77-07(G))

17. Off-Permit Changes

The owner or operator of a Title V source may make any change in its operations or emissions at the source that is not specifically addressed or prohibited in the Title V permit, without obtaining an amendment or modification of the permit, provided that the following conditions are met:

a) The change does not result in conditions that violate any applicable requirements or that violate any existing federally enforceable permit term or condition.

b) The permittee provides contemporaneous written notice of the change to the Director and the Administrator of the U.S. EPA, except that no such notice shall be required for changes that qualify as insignificant emissions levels or activities as defined in OAC rule 3745-77-01(U). Such written notice shall describe each such change, the date of such change, any change in emissions or pollutants emitted, and any federally applicable requirement that would apply as a result of the change.

c) The change shall not qualify for the permit shield under OAC rule 3745-77-07(F).

d) The permittee shall keep a record describing all changes made at the source that result in emissions of a regulated air pollutant subject to an applicable requirement, but not otherwise regulated under the permit, and the emissions resulting from those changes.

e) The change is not subject to any applicable requirement under Title IV of the Act or is not a modification under any provision of Title I of the Act.

Paragraph (I) of rule 3745-77-07 of the Administrative Code applies only to modification or amendment of the permittee's Title V permit. The change made may require a permit-to-install under Chapter 3745-31 of the Administrative Code if the change constitutes a modification as defined in that Chapter. Nothing in paragraph (I) of rule 3745-77-07 of the Administrative Code shall affect any applicable obligation under Chapter 3745-31 of the Administrative Code.

(Authority for term: OAC rule 3745-77-07(I))

18. Compliance Method Requirements

Nothing in this permit shall alter or affect the ability of any person to establish compliance with, or a violation of, any applicable requirement through the use of credible evidence to the extent authorized by law. Nothing in this permit shall be construed to waive any defenses otherwise available to the permittee, including but not limited to, any challenge to the Credible Evidence Rule (see 62 Federal Register 8314, Feb. 24, 1997), in the context of any future proceeding.

(This term is provided for informational purposes only.)

19. Insignificant Activities or Emissions Levels

Each IEU that is subject to one or more applicable requirements shall comply with those applicable requirements.

(Authority for term: OAC rule 3745-77-07(A)(1))

20. Permit to Install Requirement

Prior to the "installation" or "modification" of any "air contaminant source," as those terms are defined in OAC rule 3745-31-01, a permit to install must be obtained from the Ohio EPA pursuant to OAC Chapter 3745-31.

(Authority for term: OAC rule 3745-77-07(A)(1))

21. 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.

(Authority for term: OAC rule 3745-77-07(A)(1))

22. Permanent Shutdown of an Emissions Unit

The permittee may notify Ohio EPA of any emissions unit that is permanently shut down by submitting a certification from the Responsible 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 Responsible Official that the emissions unit was permanently shut down.

After the date on which an emissions unit is permanently shut down (i.e., that 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 and therefore ceases to meet the definition of an "emissions unit" as defined in OAC rule 3745-77-01(O)), rendering existing permit terms and conditions irrelevant, the permittee shall not be required, after the date of the certification and submission to Ohio EPA, to meet any Title V permit requirements applicable to that emissions unit, except for any residual requirements, such as the quarterly deviation reports, semi-annual deviation reports and annual compliance certification covering the period during which the emissions unit last operated. All records relating to the shutdown emissions unit, generated while the emissions unit was in operation, must be maintained in accordance with law.

Unless otherwise exempted, noemissions unit identified in this permit that has beencertified by the Responsible Official as being permanently shut down may resume operation without first applying for and obtaining a permit to install pursuant to OAC Chapter 3745-31.

(Authority for term: OAC rule 3745-77-01)

23. Title VI Provisions

If applicable, the permittee shall comply with the standards for recycling and reducing emissions of ozone depleting substances pursuant to 40 CFR Part 82, Subpart F, except as provided for motor vehicle air conditioners in Subpart B of 40 CFR Part 82:

a) Persons operating appliances for maintenance, service, repair, or disposal must comply with the required practices specified in 40 CFR 82.156.

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

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

(Authority for term: OAC rule 3745-77-01(H)(11)))

24. Reporting Requirements Related to Monitoring and Record Keeping Requirements Under State Law Only

The permittee shall submit required reports in the following manner:

a) Reports of any required monitoring and/or record keeping information shall be submitted to theCleveland 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 (i) any deviations (excursions) from emission limitations, operational restrictions, and control device operating parameter limitations that have been detected by the testing, monitoring, and record keeping requirements specified in this permit, (ii) the probable cause of such deviations, and (iii) any corrective actions or preventive measures which have been or will be taken, shall be submitted to the Cleveland Division of Air Quality. In identifying each deviation, the permittee shall specify the applicable requirement for which the deviation occurred, describe each deviation, and provide the magnitude and duration of each deviation. 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.)

25. Records Retention Requirements Under State Law Only

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.

26. Inspections and Information Requests

The Director of the Ohio EPA, or an authorized representative of the Director, may, subject to the safety requirements of the permittee and without undue delay, enter upon the premises of this source at any reasonable time for purposes of making inspections, conducting tests, examining records or reports pertaining to any emission of air contaminants, and determining compliance with any applicable State air pollution laws and regulations and the terms and conditions of this permit. 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, reopening or revoking this permit or to determine compliance with this permit. Upon verbal or written request, the permittee shall also furnish to the Director of the Ohio EPA, or an authorized representative of the Director, copies of records required to be kept by this permit.

(Authority for term: OAC rule 3745-77-07(C))

27. Scheduled Maintenance/Malfunction Reporting For State-Only Requirements

Any scheduled maintenance of air pollution control equipment shall be performed in accordance with paragraph (A) of OAC rule 3745-15-06. The malfunction of any emissions units or any associated air pollution control system(s) shall be reported to the Cleveland Division of Air Quality in accordance with paragraph (B) of 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 emissions unit(s) that is (are) served by such control system(s).

28. Permit Transfers

Any transferee of this permit shall assume the responsibilities of the prior permit holder. The Cleveland Division of Air Quality must be notified in writing of any transfer of this permit.

(Authority for term: OAC rule 3745-77-01(C))

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

If no emission limitation (or control requirement), operational restriction and/or control device parameter limitation 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 by January 31, April 30, July 31, and October 31 of each year; and each report shall cover the previous calendar quarter.

The permittee is not required to submit a quarterly report which states that no deviations occurred during that quarter for the following situations:

a) where an emissions unit has deviation reporting requirements for a specific emission limitation, operational restriction, or control device parameter limitation that override the deviation reporting requirements specified in Standard Term and Condition A.2.c)(2); or

b) where an uncontrolled emissions unit has no monitoring, record keeping, or reporting requirements and the emissions unit's applicable emission limitations are established at the potential to emit; or

c) where the company's Responsible Official has certified that an emissions unit has been permanently shut down.

30. Submitting Documents Required by this Permit

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 ofan 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 Cleveland Division of Air Quality, 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 required application, notification or report is considered to be "submitted" on the date the submission is successful using a valid electronic signature. Signature by the Responsible Official may be represented as provided through procedures established in Air Services.

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. Pursuant to 40 CFR Part 64, the permittee has submitted and the Ohio EPA has approved a compliance assurance monitoring (CAM) plan for emissions units P033, P034, P053, P071, P072, P901 through P903, P915, P917, P918, P920 through P924, P926, P927 and P929 at this facility. The permittee shall comply with the provisions of the plan during any operation of the aforementioned emissions units.

   [Authority for term: 40 CFR Part 64]

C. Emissions Unit Terms and Conditions

1. P033, Nos.6, 7, 8,10 Batch Ball Mills, No. 9 Cont. Ball Mill

Operations, Property and/or Equipment Description:

nos. 6,7,8 and 10 batch ball mills, and no.9 continuous ball mill (production capacity: 8 TPH max) equipped with 7 dedicated baghouses

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) (PTI # 13-4271 issued May 13, 2004)	Visible particulate emissions shall not exceed 5% opacity from any stack as a six-minute average. Particulate emissions shall not exceed 0.01 grain per dry standard cubic foot of exhaust gases Particulate emissions shall not exceed 1.25 lbs/hr and 5.48 TPY (combined limits from all seven dedicated baghouses)
b.	OAC rule 3745-17-07(A)	The visible particulate emission limitations 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 3745-17-11(B)(1)	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).
d.	40 CFR Part 64 Compliance Assurance Monitoring (CAM)	See c)(1), c)(2), d)(1), d)(2), e)(1) and e)(2) below.

(2) Additional Terms and Conditions

a. None.

c) Operational Restrictions

(1) The pressure drop across each baghouse shall be maintained within the range of 1.0 to 8.0 inches of water while the emissions unit is in operation.

[Authority for term: OAC rules 3745-77-07(A)(1) and 3745-31-05(A)(3) and PTI#13-04271 and 40 CFR Part 64]

(2) The permittee shall operate the dedicated baghouses for control of particulate emissions whenever the connected mill is in operation.

[Authority for term: OAC rules 3745-77-07(A)(1) and 3745-31-05(A)(3) and PTI#13-04271 and 40 CFR Part 64]

d) Monitoring and/or Recordkeeping Requirements

(1) The permittee shall properly operate and maintain equipment to monitor the pressure drop across each of the baghouses while the emissions unit is in operation. The monitoring equipment shall be calibrated, operated, and maintained in accordance with the manufacturer's recommendations, instructions, and operating manual(s). The permittee shall record the pressure drop across each baghouse once per day.

[Authority for term: OAC rules 3745-77-07(C)(1) and 3745-31-05(A)(3) and PTI#13-04271 and 40 CFR Part 64]

(2) The CAM plan for this emissions unit has been developed for particulate emissions. The CAM performance indicator for particulate emissions is the pressure drop range for the baghouses.

The CAM performance indicator range as measured by the baghouse pressure drops is specified in c)(1). When the pressure drops are outside of the indicator range specified in c)(1), corrective action (including, but not limited to, an evaluation of the emissions unit and the control device) will be required.

Upon detecting an excursion of any of the particulate emission indicator ranges listed above, the owner or operator shall restore operation of the emissions unit (including the control devices) to its normal or usual manner of operation as expeditiously as practicable in accordance with good air pollution control practices for minimizing emissions. The response shall include minimizing the period of any startup, shutdown or malfunction and taking any necessary corrective actions to restore normal operation and prevent the likely recurrence of the cause of an excursion. Such actions may include initial inspection and evaluation, recording that operations returned to normal without operator action (such as thorough response by the computerized distribution control system), or any necessary follow-up actions to return operation to within the indicator range.

If a determination is made by the Administrator or Ohio EPA that the permittee has not used acceptable procedures in response to an excursion or exceedance based on the results of a determination made under 40 CFR Part 64.7(d)(2), the permittee may be required to develop a Quality Improvement Plan (QIP) consistent with the requirements of 40 CFR Part 64.8.

[Authority for term: OAC rule 3745-77-07(C)(1) and 40 CFR Part 64]

e) Reporting Requirements

(1) The permittee shall submit quarterly pressure drop deviation (excursion) reports to the Cleveland DAQ that identify all periods of time during which the pressure drop across any of the baghouses did not comply with the allowable range specified above.

[Authority for term: OAC rules 3745-77-07(C)(1) and 3745-31-05(A)(3) and PTI#13-04271 and 40 CFR Part 64]

(2) If the results of monitoring or record keeping data indicate that the particulate emission limitations may have been exceeded, the permittee shall submit the results of that data, and document any corrective action taken to restore operation of the emissions unit, or its control equipment to its normal or usual manner of operation as expeditiously as practicable in accordance with good air pollution control practices for minimizing emissions. The reports shall be submitted in accordance with the Standard Term and Conditions of this permit.

[Authority for term: OAC rule 3745-77-07(C)(1) and 40 CFR Part 64]

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 shall not exceed 5% opacity as a six-minute average from any stack.

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

[Authority for term: OAC rules 3745-77-07(C)(1) and 3745-17-03(B)(1) and 3745-31-05(A)(3) and PTI#13-04271 and 40 CFR Part 64]

b. Emission Limitation:

Particulate emissions shall not exceed 0.01 grain per dry standard cubic foot of exhaust gases or 1.25 lbs/hr (combined limit from all seven dedicated baghouses)

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 glass manufacturing (2.0 lbs/ton) which is multiplied by the combined maximum production rate for all mills (8.0 tons/hr) and (1-0.999) which is the 99.9% baghouse removal efficiency. This lb/hr emission rate is multiplied by (7,000 grains/lb)*(1 hr/60min)*(min/14,550 ft3) to arrive at the emission rate in grains of particulate emissions per dry standard cubic foot of exhaust gases.

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.

[Authority for term: OAC rules 3745-77-07(C)(1) and 3745-31-05(A)(3) and PTI#13-04271]

c. Emission Limitation:

Particulate emissions shall not exceed 5.48 TPY

Applicable Compliance Method:
Compliance with the annual limitation shall be assumed as long as compliance with the hourly limitation is maintained (the annual limitation was calculated by multiplying the hourly limitation by 8,760, and then dividing by 2,000).

[Authority for term: OAC rules 3745-77-07(C)(1) and 3745-31-05(A)(3) and PTI#13-04271]

g) Miscellaneous Requirements

(1) None.

2. P034, Dry Batch Ball Mill #12

Operations, Property and/or Equipment Description:

dry batch ball mill no. 12 (production capacity 2,800 lbs/hr max) equipped with two baghouses

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) (PTI # 13-2822 issued June 24, 1994)	Particulate emissions shall not exceed 0.01 grain per dry standard cubic foot of exhaust gases Particulate emissions shall not exceed 0.39 lb/hr and 1.70 TPY Visible particulate emissions from any stack shall not exceed 5% opacity as a six-minute average.
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 3745-17-11(B)(1)	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).
d.	40 CFR Part 64 Compliance Assurance Monitoring (CAM)	See c)(1), c)(2), d)(1), d)(2), d)(3), e)(1), e)(2) and e)(3) below.

(2) Additional Terms and Conditions

a. None.

c) Operational Restrictions

(1) The pressure drop across the MillFF#12 baghouse shall be maintained within the range of 1.0 to 8.0 inches of water while the emissions unit is in operation.

[Authority for term: OAC rule 3745-77-07(A)(1) and 40 CFR Part 64]

(2) The pressure drop across the Mill#12 bag breaking baghouse shall be maintained within the range of 1.0 to 8.0 inches of water while the emissions unit is in operation.

[Authority for term: OAC rule 3745-77-07(A)(1) and 40 CFR Part 64]

d) Monitoring and/or Recordkeeping Requirements

(1) The permittee shall properly operate and maintain equipment to monitor the pressure drop across the MillFF#12 baghouse while the emissions unit is in operation. The monitoring equipment shall be calibrated, operated, and maintained in accordance with the manufacturer's recommendations, instructions, and operating manual(s). The permittee shall record the pressure drop across the baghouse on a daily basis.

[Authority for term: OAC rule 3745-77-07(C)(1) and 40 CFR Part 64]

(2) The permittee shall properly operate and maintain equipment to monitor the pressure drop across the Mill#12 bag breaking baghouse while the emissions unit is in operation. The monitoring equipment shall be calibrated, operated, and maintained in accordance with the manufacturer's recommendations, instructions, and operating manual(s). The permittee shall record the pressure drop across the baghouse on a daily basis.

[Authority for term: OAC rule 3745-77-07(C)(1) and 40 CFR Part 64]

(3) The CAM plan for this emissions unit has been developed for particulate emissions. The CAM performance indicator for particulate emissions is the pressure drop range for the MillFF#12 baghouse and the Mill#12 bag breaking baghouse.

The CAM performance indicator range as measured by the baghouse pressure drops is specified in c)(1) and c)(2). When the pressure drops are outside of the indicator ranges specified in c)(1) or c)(2), corrective action (including, but not limited to, an evaluation of the emissions unit and the control device) will be required.

Upon detecting an excursion of any of the particulate emission indicator ranges listed above, the owner or operator shall restore operation of the emissions unit (including the control devices) to its normal or usual manner of operation as expeditiously as practicable in accordance with good air pollution control practices for minimizing emissions. The response shall include minimizing the period of any startup, shutdown or malfunction and taking any necessary corrective actions to restore normal operation and prevent the likely recurrence of the cause of an excursion. Such actions may include

initial inspection and evaluation, recording that operations returned to normal without operator action (such as thorough response by the computerized distribution control system), or any necessary follow-up actions to return operation to within the indicator range.

If a determination is made by the Administrator or Ohio EPA that the permittee has not used acceptable procedures in response to an excursion or exceedance based on the results of a determination made under 40 CFR Part 64.7(d)(2), the permittee may be required to develop a Quality Improvement Plan (QIP) consistent with the requirements of 40 CFR Part 64.8.

[Authority for term: OAC rule 3745-77-07(C)(1) and 40 CFR Part 64]

e) Reporting Requirements

(1) The permittee shall submit quarterly pressure drop deviation (excursion) reports to the Cleveland DAQ that identify all periods of time during which the pressure drop across the MillFF#12 baghouse did not comply with the allowable range specified above.

[Authority for term: OAC rule 3745-77-07(C)(1) and 40 CFR Part 64]

(2) The permittee shall submit quarterly pressure drop deviation (excursion) reports to the Cleveland DAQ that identify all periods of time during which the pressure drop across the Mill#12 bag breaking baghouse did not comply with the allowable range specified above.

[Authority for term: OAC rule 3745-77-07(C)(1) and 40 CFR Part 64]

(3) If the results of monitoring or record keeping data indicate that the particulate emission limitations may have been exceeded, the permittee shall submit the results of that data, and document any corrective action taken to restore operation of the emissions unit, or its control equipment to its normal or usual manner of operation as expeditiously as practicable in accordance with good air pollution control practices for minimizing emissions. The reports shall be submitted in accordance with the Standard Term and Conditions of this permit.

[Authority for term: OAC rule 3745-77-07(C)(1) and 40 CFR Part 64]

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:

Particulate emissions shall not exceed 0.01 grain per dry standard cubic foot of exhaust gases or 0.39 lb/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 glass manufacturing (2.0 lbs/ton) which is multiplied by the maximum production rate for the emissions unit (1.4 tons/hr) and (1-0.999) which is the 99.9% baghouse removal efficiency. This lb/hr emission rate is multiplied by (7000 grains/lb)*(1 hr/60min)*(min/4,500 ft3) to arrive at the emission rate in grains of particulate emissions per dry standard cubic foot of exhaust gases.

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.

[Authority for term: OAC rules 3745-77-07(C)(1) and 3745-31-05(A)(3) and PTI#13-02822]

b. Emission Limitation:

Particulate emissions shall not exceed 1.70 TPY

Applicable Compliance Method:
Compliance with the annual limitation shall be assumed as long as compliance with the hourly limitation is maintained (the annual limitation was calculated by multiplying the hourly limitation by 8760, and then dividing by 2000).

[Authority for term: OAC rules 3745-77-07(C)(1) and 3745-31-05(A)(3) and PTI#13-02822]

c. Emission Limitation:

Visible particulate emissions from any stack shall not exceed 5% opacity as a six-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 and the procedures specified in OAC rule 3745-17-03(B)(1).

[Authority for term: OAC rules 3745-77-07(C)(1), 3745-31-05(A)(3), PTI#1302822 and 40 CFR Part 64]

g) Miscellaneous Requirements

(1) None.

3. P053, Mill 13

Operations, Property and/or Equipment Description:

batch ball mill no. 13 (production capacity 2,800 lbs/hr max) equipped with a baghouse

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) (PTI # 13-3176 issued November 27, 1996)	Particulate emissions shall not exceed 0.01 grain/dscf of exhaust gases and 0.42 TPY Visible particulate emissions shall not exceed 5% opacity from any stack as a six-minute average.
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 3745-17-11(B)(1)	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).
d.	40 CFR Part 64 Compliance Assurance Monitoring (CAM)	See c)(1), d)(1), d)(2), e)(1) and e)(2) below.

(2) Additional Terms and Conditions

a. None.

c) Operational Restrictions

(1) The pressure drop across the baghouse shall be maintained within the range of 1.0 to 8.0 inches of water while the emissions unit is in operation.

[Authority for term: OAC rule 3745-77-07(A)(1) and 40 CFR Part 64]

d) Monitoring and/or Recordkeeping Requirements

(1) The permittee shall properly operate and maintain equipment to monitor the pressure drop across the baghouse while the emissions unit is in operation. The monitoring equipment shall be calibrated, operated, and maintained in accordance with the manufacturer's recommendations, instructions, and operating manual(s). The permittee shall record the pressure drop across the baghouse on a daily basis.

[Authority for term: OAC rule 3745-77-07(C)(1) and 40 CFR Part 64]

(2) The CAM plan for this emissions unit has been developed for particulate emissions. The CAM performance indicator for particulate emissions is the pressure drop range for the baghouse.

The CAM performance indicator range as measured by the baghouse pressure drop is specified in c)(1). When the pressure drop is outside of the indicator range specified in c)(1), corrective action (including, but not limited to, an evaluation of the emissions unit and the control device) will be required.

Upon detecting an excursion of any of the particulate emission indicator ranges listed above, the owner or operator shall restore operation of the emissions unit (including the control devices) to its normal or usual manner of operation as expeditiously as practicable in accordance with good air pollution control practices for minimizing emissions. The response shall include minimizing the period of any startup, shutdown or malfunction and taking any necessary corrective actions to restore normal operation and prevent the likely recurrence of the cause of an excursion. Such actions may include initial inspection and evaluation, recording that operations returned to normal without operator action (such as thorough response by the computerized distribution control system), or any necessary follow-up actions to return operation to within the indicator range.

If a determination is made by the Administrator or Ohio EPA that the permittee has not used acceptable procedures in response to an excursion or exceedance based on the results of a determination made under 40 CFR Part 64.7(d)(2), the permittee may be required to develop a Quality Improvement Plan (QIP) consistent with the requirements of 40 CFR Part 64.8.

[Authority for term: OAC rule 3745-77-07(C)(1) and 40 CFR Part 64]

e) Reporting Requirements

(1) The permittee shall submit quarterly pressure drop deviation (excursion) reports to the Cleveland DAQ that identify all periods of time during which the pressure drop across the baghouse did not comply with the allowable range specified above.

[Authority for term: OAC rule 3745-77-07(C)(1) and 40 CFR Part 64]

(2) If the results of monitoring or record keeping data indicate that the particulate emission limitations may have been exceeded, the permittee shall submit the results of that data, and document any corrective action taken to restore operation of the emissions unit, or its control equipment to its normal or usual manner of operation as expeditiously as practicable in accordance with good air pollution control practices for minimizing emissions. The reports shall be submitted in accordance with the Standard Term and Conditions of this permit.

[Authority for term: OAC rule 3745-77-07(C)(1) and 40 CFR Part 64]

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:
Particulate emissions shall not exceed 0.01 grain per dry standard cubic feet of exhaust gases

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 ceramic clay milling (0.12 lb of particulate emissions/ton milled, with fabric collector) multiplied by the maximum production rate for the emissions unit (1.4 tons/hr), multiplied by (1 hr/60 min), multiplied by (7,000 grains/lb) and divided by the baghouse rated exhaust flow rate of 2,500 dscf/min.

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.

[Authority for term: OAC rules 3745-77-07(C)(1) and 3745-31-05(A)(3) and PTI#13-03176]

b. Emission Limitation:
Particulate emissions shall not exceed 0.42 TPY

Applicable Compliance Method:

Compliance with the annual limitation shall be based upon multiplying the short term emission limitation calculated in f)(1)a. by the actual operating hours of the emission unit and then dividing by 2,000.

[Authority for term: OAC rules 3745-77-07(C)(1) and 3745-31-05(A)(3) and PTI#13-03176]

c. Emission Limitation:
Visible particulate emissions shall not exceed 5% opacity from any stack as a six-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.

[Authority for term: OAC rules 3745-77-07(C)(1) and 3745-31-05(A)(3) and PTI#13-03176 and 40 CFR Part 64]

g) Miscellaneous Requirements

(1) None.

4. P057, PERC Mikron classification system

Operations, Property and/or Equipment Description:

PERC powder mikron classification system that separates glass powders by particle size, equipped with 2 baghouses.

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) (PTI#13-3323 issued October 29, 1997)	Particulate emissions shall not exceed 0.1 lb/hr and 0.17 TPY Visible particulate emissions from the stack shall not exceed 5% opacity at all times.
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 3745-17-11(B)(1)	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. None.

c) Operational Restrictions

(1) The pressure drop across each baghouse shall be maintained within the range of 1.0 to 8.0 inches of water while the emissions unit is in operation.

[Authority for term: OAC rule 3745-77-07(A)(1)]

d) Monitoring and/or Recordkeeping Requirements

(1) The permittee shall properly operate and maintain equipment to monitor the pressure drop across each baghouse while the emissions unit is in operation. The monitoring equipment shall be calibrated, operated, and maintained in accordance with the manufacturer's recommendations, instructions, and operating manual(s). The permittee shall record the pressure drop across each baghouse on a daily basis.

[Authority for term: OAC rule 3745-77-07(C)(1)]

e) Reporting Requirements

(1) The permittee shall submit quarterly pressure drop deviation (excursion) reports to the Cleveland DAQ that identify all periods of time during which the pressure drop across the baghouses did not comply with the allowable range specified above.

[Authority for term: OAC rule 3745-77-07(C)(1)]

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:
Particulate emissions shall not exceed 0.1 lb/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 ceramic product manufacturing, equipped with a fabric filter (0.12 lb/ton) which is multiplied by the maximum production rate for the emissions unit (0.75 ton/hr).

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.

[Authority for term: OAC rules 3745-77-07(C)(1) and 3745-31-05(A)(3) and PTI#13-03323]

b. Emission Limitation:

Particulate emissions shall not exceed 0.17 TPY.

Applicable Compliance Method:
Compliance with the annual limitation shall be based upon multiplying the short term emission limitation calculated in f)(1)a. by the actual operating hours of the emission unit and then dividing by 2,000.

[Authority for term: OAC rules 3745-77-07(C)(1) and 3745-31-05(A)(3) and PTI#13-03323]

c. Emission Limitation:
Visible particulate emissions from the stack shall not exceed 5% opacity at all times.

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

[Authority for term: OAC rules 3745-77-07(C)(1) and 3745-31-05(A)(3) and PTI#13-03323]

g) Miscellaneous Requirements

(1) None.

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

Operations, Property and/or Equipment Description:

a) 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.

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 Permit #P0116702 issued on 7/2/2014	Volatile organic compounds (VOC) emissions shall not exceed 1.15 lb/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)(b), as effective 12/01/06	See b)(2)b.

	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/yr. These limits shall apply after the SIP is approved per b)(2)d. below.
f.	40 CFR Part 64 Compliance Assurance Monitoring (CAM)	See c)(3), c)(5), d)(4), d)(5), d)(7) – d)(12) e)(2), e)(3) and e)(5) 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 lbs is a 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 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.

[Authority for term: OAC rules 3745-77-07(A)(1) and 3745-31-05(A)(3) and Permit # P0116702]

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

[Authority for term: OAC rules 3745-77-07(A)(1) and 3745-31-05(A)(3) and Permit # P0116702]

(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.

[Authority for term: OAC rules 3745-77-07(A)(1), 3745-31-05(A)(3) and Permit # P0116702 and 40 CFR Part 64]

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

[Authority for term: OAC rules 3745-77-07(A)(1) and 3745-31-05(A)(3) and Permit # P0116702]

(5) The permittee shall operate the baghouse for this emissions unit in accordance with the Preventative Maintenance Plan (PMP) submitted on February 22, 2012 to the Cleveland Division of Air Quality (Cleveland DAQ). The PMP shall serve as an operational restriction for the baghouse. Any future revisions to the PMP must be approved by the Cleveland DAQ.

[Authority for term: OAC rules 3745-77-07(A)(1), 3745-31-05(A)(3) and Permit # P0116702 and 40 CFR Part 64]

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

installed, calibrated, operated and maintained in accordance with the manufacturer's recommendations, instructions and operating manuals.

[Authority for term: OAC rules 3745-77-07(C)(1) and 3745-31-05(A)(3) and Permit # P0116702]

(2) The permittee shall collect and record the following information for each day when 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.

[Authority for term: OAC rules 3745-77-07(C)(1) and 3745-31-05(A)(3) and Permit # P0116702]

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

[Authority for term: OAC rules 3745-77-07(C)(1) and 3745-31-05(A)(3) and Permit # P0116702 and 40 CFR Part 64]

(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.

[Authority for term: OAC rules 3745-77-07(C)(1) and 3745-31-05(A)(3) and Permit # P0116702 and 40 CFR Part 64]

(5) The CAM plan for this emissions unit has been developed for particulate emissions. The CAM performance indicators for particulate emissions are the pressure drop range for the baghouse and the fabric filter bag leak detection system.

The CAM performance indicator range as measured by the baghouse pressure drop is specified in c)(3). When the pressure drop is outside of the indicator range specified in c)(3), corrective action (including, but not limited to, an evaluation of the emissions unit and the control device) will be required.

The CAM performance indicator range as measured by the bag leak detection system is specified in d)(8). When a fabric filter bag leak detection system alarms, as specified in d)(9), corrective action (including, but not limited to, an evaluation of the emissions unit and the control device) will be required.

Upon detecting an excursion of any of the particulate emission indicator ranges listed above, the owner or operator shall restore operation of the emissions unit (including the

control devices) to its normal or usual manner of operation as expeditiously as practicable in accordance with good air pollution control practices for minimizing emissions. The response shall include minimizing the period of any startup, shutdown or malfunction and taking any necessary corrective actions to restore normal operation and prevent the likely recurrence of the cause of an excursion. Such actions may include initial inspection and evaluation, recording that operations returned to normal without operator action (such as thorough response by the computerized distribution control system), or any necessary follow-up actions to return operation to within the indicator range.

If a determination is made by the Administrator or Ohio EPA that the permittee has not used acceptable procedures in response to an excursion or exceedance based on the results of a determination made under 40 CFR Part 64.7(d)(2), the permittee may be required to develop a Quality Improvement Plan (QIP) consistent with the requirements of 40 CFR Part 64.8.

[Authority for term: OAC rule 3745-77-07(C)(1) and 40 CFR Part 64]

(6) 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.

[Authority for term: OAC rule 3745-77-07(C)(1) and 3745-31-05(A)(3) and Permit # P0116702]

(7) The permittee shall 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.

[Authority for term: OAC rules 3745-77-07(C)(1), 3745-31-05(A)(3) and Permit # P0116702 and 40 CFR Part 64]

(8) 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.

[Authority for term: OAC rules 3745-77-07(C)(1), 3745-31-05(A)(3) and Permit # P0116702 and 40 CFR Part 64]

(9) 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.

[Authority for term: OAC rules 3745-77-07(C)(1), 3745-31-05(A)(3) and Permit # P0116702 and 40 CFR Part 64]

(10) 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.

[Authority for term: OAC rules 3745-77-07(C)(1), 3745-31-05(A)(3) and Permit # P0116702 and 40 CFR Part 64]

(11) 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.

[Authority for term: OAC rules 3745-77-07(C)(1), 3745-31-05(A)(3) and Permit # P0116702 and 40 CFR Part 64]

(12) 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.

[Authority for term: OAC rules 3745-77-07(C)(1), 3745-31-05(A)(3) and Permit # P0116702 and 40 CFR Part 64]

e) Reporting Requirements

(1) The permittee shall submit quarterly deviation (excursion) reports to the 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 pressure drop across the scrubber; and

b. the scrubber water flow rate.

[Authority for term: OAC rule 3745-77-07(C)(1) and 3745-31-05(A)(3) and Permit # P0116702]

(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.

[Authority for term: OAC rule 3745-77-07(C)(1), 3745-31-05(A)(3) and Permit # P0116702 and 40 CFR Part 64]

(3) If the results of monitoring or record keeping data indicate that the particulate emission limitations may have been exceeded, the permittee shall submit the results of that data, and document any corrective action taken to restore operation of the emissions unit, or its control equipment to its normal or usual manner of operation as expeditiously as practicable in accordance with good air pollution control practices for minimizing emissions. The reports shall be submitted in accordance with the Standard Term and Conditions of this permit.

[Authority for term: OAC rule 3745-77-07(C)(1) and 40 CFR Part 64]

(4) The permittee shall submit quarterly deviation (excursion) reports to the Cleveland DAQ in accordance with the monitoring requirements for visible emissions in term number d)(6) 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.

[Authority for term: OAC rule 3745-77-07(C)(1) and 3745-31-05(A)(3) and Permit # P0116702]

(5) 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.

[Authority for term: OAC rule 3745-77-07(C)(1), 3745-31-05(A)(3) and Permit # P0116702 and 40 CFR Part 64]

(6) 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.

[Authority for term: OAC rule 3745-77-07(C)(1) and 3745-31-05(A)(3) and Permit # P0116702]

(7) 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.

[Authority for term: OAC rule 3745-77-07(C)(1) and 3745-31-05(A)(3) and Permit # P0116702]

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:
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 - 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.

[Authority for term: OAC rule 3745-77-07(C)(1) and 3745-31-05(A)(3) and Permit # P0116702]

b. 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, and then dividing by 2,000), compliance with the tons per year limitation shall also be demonstrated.

[Authority for term: OAC rule 3745-77-07(C)(1) and 3745-31-05(A)(3) and Permit # P0116702]

c. 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.

[Authority for term: OAC rule 3745-77-07(C)(1) and 3745-31-05(A)(3) and Permit # P0116702]

d. 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, and then dividing by 2,000), compliance with the tons per year limitation shall also be demonstrated.

[Authority for term: OAC rule 3745-77-07(C)(1) and 3745-31-05(A)(3) and Permit # P0116702]

e. Emission Limitation:

Visible particulate emissions shall not exceed 5% 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).

[Authority for term: OAC rule 3745-77-07(C)(1) and 3745-31-05(A)(3) and Permit # P0116702]

f. Emission Limitation:
Visible particulate emissions from any stack shall not exceed 20% opacity as a 6-minute average, except as provided by the rule.

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)(1).

[Authority for term: OAC rules 3745-77-07(C)(1), 3745-17-07(A) and 3745-31-05(A)(3) and Permit # P0116702]

g. 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 Method 1 - 5 of 40 CFR, Part 60, Appendix A.

[Authority for term: OAC rules 3745-77-07(C)(1), 3745-17-11(B) and 3745-31-05(A)(3) and Permit # P0116702]

h. 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, and then dividing by 2,000), compliance with the tons per year limitation shall also be demonstrated.

[Authority for term: OAC rule 3745-77-07(C)(1) and 3745-31-05(A)(3) and Permit # P0116702]

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, that 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.

[Authority for term: OAC rule 3745-77-07(C)(1) and 3745-31-05(A)(3) and Permit # P0116702]

6. P072, Dry batch ball mill #14 w/Mikron classifier

Operations, Property and/or Equipment Description:

batch ball mill no. 14 (production capacity 1,425 lbs/hr max) with Mikron classifier and pneumatic transport equipped with three baghouses

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) (PTI # 13-03667 issued June 18, 2002)	Particulate emissions shall not exceed 3.27 lbs/hr and 14.32 TPY. Visible particulate emissions shall not exceed 5% opacity, as a 6-minute average from any stack.
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 3745-17-11(B)(1)	The particulate emission limitation specified by this rule is equivalent to the hourly particulate emission limitation established pursuant to OAC rule 3745-31-05(A)(3).
d.	40 CFR Part 64 Compliance Assurance Monitoring (CAM)	See c)(1), d)(1), d)(2), d)(3), e)(1) and e)(2) below.

(2) Additional Terms and Conditions

a. None.

c) Operational Restrictions

(1) The pressure drop across each baghouse shall be maintained within the range of 1.0 to 8.0 inches of water while the emissions unit is in operation.

[Authority for term: OAC rules 3745-77-07(A)(1) and 3745-31-05(A)(3) and PTI#13-03667 and 40 CFR Part 64]

d) Monitoring and/or Recordkeeping Requirements

(1) The permittee shall properly operate and maintain equipment to monitor the pressure drop across each of the baghouses while the emissions unit is in operation. The monitoring equipment shall be calibrated, operated, and maintained in accordance with the manufacturer's recommendations, instructions, and operating manual(s). The permittee shall record the pressure drop across each baghouse on a daily basis.

[Authority for term: OAC rules 3745-77-07(C)(1) and 3745-31-05(A)(3) and PTI#13-03667 and 40 CFR Part 64]

(2) The permittee shall inspect the baghouse for leaks and visible particulate emissions at least once a month during operation periods. Records of such inspections shall include at a minimum the date the inspection was conducted, any and all results obtained, any problems discovered, and any corrective action taken.

[Authority for term: OAC rules 3745-77-07(C)(1) and 3745-31-05(A)(3) and PTI#13-03667 and 40 CFR Part 64]

(3) The CAM plan for this emissions unit has been developed for particulate emissions. The CAM performance indicator for particulate emissions is the pressure drop range for the baghouse.

The CAM performance indicator range as measured by the baghouse pressure drop is specified in c)(1). When the pressure drop is outside of the indicator range specified in c)(1), corrective action (including, but not limited to, an evaluation of the emissions unit and the control device) will be required.

Upon detecting an excursion of any of the particulate emission indicator ranges listed above, the owner or operator shall restore operation of the emissions unit (including the control devices) to its normal or usual manner of operation as expeditiously as practicable in accordance with good air pollution control practices for minimizing emissions. The response shall include minimizing the period of any startup, shutdown or malfunction and taking any necessary corrective actions to restore normal operation and prevent the likely recurrence of the cause of an excursion. Such actions may include initial inspection and evaluation, recording that operations returned to normal without operator action (such as thorough response by the computerized distribution control system), or any necessary follow-up actions to return operation to within the indicator range.

If a determination is made by the Administrator or Ohio EPA that the permittee has not used acceptable procedures in response to an excursion or exceedance based on the results of a determination made under 40 CFR Part 64.7(d)(2), the permittee may be required to develop a Quality Improvement Plan (QIP) consistent with the requirements of 40 CFR Part 64.8.

[Authority for term: OAC rule 3745-77-07(C)(1) and 40 CFR Part 64]

e) Reporting Requirements

(1) The permittee shall submit quarterly pressure drop deviation (excursion) reports to the Cleveland DAQ that identify all periods of time during which the pressure drop across any of the baghouses did not comply with the allowable range specified above.

[Authority for term: OAC rules 3745-77-07(C)(1) and 3745-31-05(A)(3) and PTI#13-03667 and 40 CFR Part 64]

(2) If the results of monitoring or record keeping data indicate that the particulate emission limitations may have been exceeded, the permittee shall submit the results of that data, and document any corrective action taken to restore operation of the emissions unit, or its control equipment to its normal or usual manner of operation as expeditiously as practicable in accordance with good air pollution control practices for minimizing emissions. The reports shall be submitted in accordance with the Standard Term and Conditions of this permit.

[Authority for term: OAC rule 3745-77-07(C)(1) and 40 CFR Part 64]

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:
Particulate emissions shall not exceed 3.27 lbs/hr.

Applicable Compliance Method:
Compliance with the hourly emission limitation may be determined by summing the controlled particulate emission rates (based upon the company-supplied emission data from the application for PTI 13-03667) from milling, pneumatic transport, and classification as follows:

0.1975 lb PE/hr (milling) + 0.0775 lb PE/hr (pneumatic transport) + 0.153 lb PE/hr (classification) = 0.428 lb PE/hr

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.

[Authority for term: OAC rules 3745-77-07(C)(1) and 3745-31-05(A)(3) and PTI#13-03667]

b. Emission Limitation:
Particulate emissions shall not exceed 14.32 TPY.

Applicable Compliance Method:
Compliance with the tons per year limitation shall be assumed as long as compliance is maintained with the lbs PE/hr limitation (the annual limitation was calculated by multiplying the hourly limitation by 8,760, and then dividing by 2,000).

[Authority for term: OAC rules 3745-77-07(C)(1) and 3745-31-05(A)(3) and PTI#13-03667]

c. Emission Limitation:
Visible particulate emissions shall not exceed 5% opacity, as a 6-minute average from any stack.

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

[Authority for term: OAC rules 3745-77-07(C)(1) and 3745-17-03(B)(1) and 3745-31-05(A)(3) and PTI#13-03667]

g) Miscellaneous Requirements

(1) None.

7. P901, Raw material receiving and transport to storage

Operations, Property and/or Equipment Description:

Unloading of raw material, from trucks, and rail road cars and transport to storage bins. Particulate emissions are controlled by 24 baghouses.

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
Unloading of raw material, from trucks, and rail road cars and transport to storage bins. Particulate emissions are controlled by 24 baghouses	OAC rule 3745-17-07(A)	Visible particulate emissions from any stack shall not exceed 20% opacity as a 6-minute average, except as provided by the rule.
	OAC rule 3745-17-07(B)	Visible emissions of fugitive dust from the railcar unloading and transport system shall not exceed 20% opacity as a 3-minute average.
	OAC rule 3745-17-08(B)	See b)(2)a. below.
	OAC rule 3745-17-11(B)(1)	Particulate emissions shall not exceed 47.7 lbs/hr.

	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
bulk truck quartz unloading system	OAC rule 3745-31-05(A)(3) (PTI # 13-3073 issued June 4, 2002)	Particulate emissions shall not exceed 0.04 lb/hr from the bulk truck quartz unloading system, and 0.18 TPY no visible particulate emissions from the bulk truck quartz unloading system exhaust stack gases The requirements of this rule also include compliance with the requirements of OAC rules 3745-17-07(A), 3745-17-11(B)(1), and 3745-17-08(B)(3)(b).
	OAC rule 3745-17-07(A)	The visible particulate emission requirements of this rule are less stringent than the visible particulate emission requirements of OAC rule 3745-31-05(A)(3).
	OAC rule 3745-17-07(B)	Visible emissions of fugitive dust from the bulk truck quartz unloading system shall not exceed 20% opacity as a 3-minute average.
	OAC rule 3745-17-08(B)	See b)(2)a. below.
	OAC rule 3745-17-11	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).
	40 CFR Part 64 Compliance Assurance Monitoring (CAM)	See c)(1), c)(2), d)(1), d)(3), e)(1) and e)(3) below.

(2) Additional Terms and Conditions

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

i. the use of enclosures vented to a cartridge filter; 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 permittee shall operate the dedicated baghouse(s) associated with the equipment in operation for control of fugitive dust emissions. The control equipment identification developed by the Ferro Corporation for these baghouses consists of the following:

BIN#1, Bin#2, BIN#3, BIN#4, BIN#5, BIN#6, BIN#7, BIN#8, BIN#16, BIN#20, RR-recycle, Drum unl.FF1, Drum unl.FF2, Drum unl.FF3, Drum unl.FF4, F034-FF, PnTrspt.FF1, PnTrspt.FF2, PnTrspt.FF3, PnTrspt.FF4, RR FF Main, RR Quartz unl., RR Quartz unl.1 and RR Quartz unl.2.

[Authority for term: OAC rule 3745-77-07(A)(1) and 40 CFR Part 64]

(2) The pressure drop across each of the baghouses shall be maintained within the range of 1.0 to 8.0 inches of water while the emissions unit is in operation.

[Authority for term: OAC rule 3745-77-07(A)(1) and 40 CFR Part 64]

d) Monitoring and/or Recordkeeping Requirements

(1) The permittee shall properly operate and maintain equipment to monitor the pressure drop across each of the baghouses while the emissions unit is in operation. The monitoring equipment shall be calibrated, operated, and maintained in accordance with the manufacturer's recommendations, instructions, and operating manual(s). The permittee shall record the pressure drop across each baghouse on any day when the emissions unit is in operation.

[Authority for term: OAC rule 3745-77-07(C)(1) and 40 CFR Part 64]

(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.

[Authority for term: OAC rule 3745-77-07(C)(1)]

(3) The CAM plan for this emissions unit has been developed for particulate emissions. The CAM performance indicator for particulate emissions is the pressure drop range for the baghouses.

The CAM performance indicator range as measured by the baghouse pressure drops is specified in c)(2). When the pressure drops are outside of the indicator range specified in c)(2), corrective action (including, but not limited to, an evaluation of the emissions unit and the control device) will be required.

Upon detecting an excursion of any of the particulate emission indicator ranges listed above, the owner or operator shall restore operation of the emissions unit (including the control devices) to its normal or usual manner of operation as expeditiously as practicable in accordance with good air pollution control practices for minimizing emissions. The response shall include minimizing the period of any startup, shutdown or malfunction and taking any necessary corrective actions to restore normal operation and prevent the likely recurrence of the cause of an excursion. Such actions may include initial inspection and evaluation, recording that operations returned to normal without operator action (such as thorough response by the computerized distribution control system), or any necessary follow-up actions to return operation to within the indicator range.

If a determination is made by the Administrator or Ohio EPA that the permittee has not used acceptable procedures in response to an excursion or exceedance based on the results of a determination made under 40 CFR Part 64.7(d)(2), the permittee may be required to develop a Quality Improvement Plan (QIP) consistent with the requirements of 40 CFR Part 64.8.

[Authority for term: OAC rule 3745-77-07(C)(1) and 40 CFR Part 64]

e) Reporting Requirements

(1) The permittee shall submit quarterly pressure drop deviation (excursion) reports to the Cleveland DAQ that identify all periods of time during which the pressure drop across any one of the baghouses did not comply with the allowable range specified above.

[Authority for term: OAC rule 3745-77-07(C)(1) and 40 CFR Part 64]

(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.

[Authority for term: OAC rule 3745-77-07(C)(1)]

(3) If the results of monitoring or record keeping data indicate that the particulate emission limitations may have been exceeded, the permittee shall submit the results of that data, and document any corrective action taken to restore operation of the emissions unit, or its control equipment to its normal or usual manner of operation as expeditiously as practicable in accordance with good air pollution control practices for minimizing emissions. The reports shall be submitted in accordance with the Standard Term and Conditions of this permit.

[Authority for term: OAC rule 3745-77-07(C)(1) and 40 CFR Part 64]

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 20% opacity as a 6-minute average, for the stacks serving the unloading of raw materials from trucks and rail road cars and transport to storage bins.

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)(1).

[Authority for term: OAC rule 3745-77-07(C)(1)]

b. Emission Limitation:
Visible emissions of fugitive dust from all fugitive dust emission points shall not exceed 20% opacity as a 3-minute average.

Applicable Compliance Method:
If required, 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 the 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.

[Authority for term: OAC rule 3745-77-07(C)(1)]

c. Emission Limitation:
Particulate emissions shall not exceed 47.7 lbs/hr for the stack emissions from the unloading of raw materials from trucks and rail road cars and transport to storage bins.

Applicable Compliance Method:
Compliance may be determined by multiplying the emissions units maximum hourly material handling rate of 73 tons/hr and the combined uncontrolled Ohio EPA RACM emission factors in Table 2.9-1 for feed materials receiving and feed materials transfer to storage [(1.5 lbs/ton)x(1.0)x(1 - 0.999),] where 100% is the captured percentage of all particulate emissions and 99.9% is the baghouse removal efficiency.

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.

[Authority for term: OAC rule 3745-77-07(C)(1)]

d. Emission Limitation:
Particulate emissions shall not exceed 0.18 ton/yr for the bulk truck quartz unloading system

Applicable Compliance Method:
Compliance with the annual limitation shall be assumed as long as compliance with the hourly limitation is maintained (the annual limitation was calculated by multiplying the hourly limitation by 8,760, and then dividing by 2,000).

[Authority for term: OAC rules 3745-77-07(C)(1) and 3745-31-05(A)(3) and PTI#13-03073]

e. Emission Limitation:
Particulate emissions shall not exceed 0.04 lb/hr for the bulk truck quartz unloading system

Applicable Compliance Method:
Compliance may be determined by multiplying the emissions units maximum hourly material handling rate of 25 tons/hr and the combined uncontrolled Ohio EPA RACM emission factors in Table 2.9-1 for feed materials receiving and feed materials transfer to storage [(1.5 lbs/ton)x(1.0)x(1 - 0.999),] where 100% is the captured percentage of all particulate emissions and 99.9% is the baghouse removal efficiency.

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

[Authority for term: OAC rules 3745-77-07(C)(1) and 3745-31-05(A)(3) and PTI#13-03073]

f. Emission Limitation:
No visible particulate emissions from the bulk truck quartz unloading system exhaust stack gases.

Applicable Compliance Method:
Compliance shall be determined through visible emissions observations performed in accordance with 40 CFR Part 60, Appendix A, Method 22.

[Authority for term: OAC rules 3745-77-07(C)(1) and 3745-31-05(A)(3) and PTI#13-03073]

g) Miscellaneous Requirements

(1) None.

8. P902, Raw material weighing and mixing

Operations, Property and/or Equipment Description:

Weigh bins, belt conveyor, and raw material receiving/transport. Particulate emissions are controlled by 9 baghouses which serve to control the emissions from three separate material handling systems that consist of 3 baghouses for each product line.

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 3745-17-07(A)	Visible particulate emissions from any stack shall not exceed 20% opacity as a 6-minute average, except as provided by the rule.
b.	OAC rule 3745-17-07(B)	Visible emissions of fugitive dust shall not exceed 20% opacity as a 3-minute average.
c.	OAC rule 3745-17-08(B)	See b)(2)a. below.
d.	OAC rule 3745-17-11(B)(1)	Particulate emissions shall not exceed 44.7 lbs/hr.
e.	40 CFR Part 64 Compliance Assurance Monitoring (CAM)	See c)(1), c)(2), d)(1), d)(3), e)(1) and e)(3) below.

(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; 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 permittee shall operate 3 baghouses for control of the particulate emissions whenever each material handling system is in operation. The control equipment identification developed by the Ferro Corporation for these baghouses consist of the following:

F047-FF1, F047-FF2, F047-FF3, P019FF-1, P019FF-2, P019FF-3, P019FF-5, P019FF-6 and P019FF-7.

[Authority for term: OAC rule 3745-77-07(A)(1) and 40 CFR Part 64]

(2) The pressure drop across all baghouses shall be maintained within the range of 1.0 to 8.0 inches of water while the emissions unit is in operation.

[Authority for term: OAC rule 3745-77-07(A)(1) and 40 CFR Part 64]

d) Monitoring and/or Recordkeeping Requirements

(1) The permittee shall properly operate and maintain equipment to monitor the pressure drop across all the baghouses while the emissions unit is in operation. The monitoring equipment shall be calibrated, operated, and maintained in accordance with the manufacturer's recommendations, instructions, and operating manual(s). The permittee shall record the pressure drop across each baghouse in operation once per day.

[Authority for term: OAC rule 3745-77-07(C)(1) and 40 CFR Part 64]

(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.

[Authority for term: OAC rule 3745-77-07(C)(1)]

(3) The CAM plan for this emissions unit has been developed for particulate emissions. The CAM performance indicator for particulate emissions is the pressure drop range for the baghouses.

The CAM performance indicator range as measured by the baghouse pressure drops is specified in c)(2). When the pressure drops are outside of the indicator range specified in c)(2), corrective action (including, but not limited to, an evaluation of the emissions unit and the control device) will be required.

Upon detecting an excursion of any of the particulate emission indicator ranges listed above, the owner or operator shall restore operation of the emissions unit (including the control devices) to its normal or usual manner of operation as expeditiously as practicable in accordance with good air pollution control practices for minimizing emissions. The response shall include minimizing the period of any startup, shutdown or malfunction and taking any necessary corrective actions to restore normal operation and prevent the likely recurrence of the cause of an excursion. Such actions may include initial inspection and evaluation, recording that operations returned to normal without operator action (such as thorough response by the computerized distribution control system), or any necessary follow-up actions to return operation to within the indicator range.

If a determination is made by the Administrator or Ohio EPA that the permittee has not used acceptable procedures in response to an excursion or exceedance based on the results of a determination made under 40 CFR Part 64.7(d)(2), the permittee may be required to develop a Quality Improvement Plan (QIP) consistent with the requirements of 40 CFR Part 64.8.

[Authority for term: OAC rule 3745-77-07(C)(1) and 40 CFR Part 64]

e) Reporting Requirements

(1) The permittee shall submit quarterly pressure drop deviation (excursion) reports to the Cleveland DAQ that identify all periods of time during which the pressure drop across any one of the baghouses did not comply with the allowable range specified above.

[Authority for term: OAC rule 3745-77-07(C)(1) and 40 CFR Part 64]

(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.

[Authority for term: OAC rule 3745-77-07(C)(1)]

(3) If the results of monitoring or record keeping data indicate that the particulate emission limitations may have been exceeded, the permittee shall submit the results of that data, and document any corrective action taken to restore operation of the emissions unit, or its control equipment to its normal or usual manner of operation as expeditiously as practicable in accordance with good air pollution control practices for minimizing emissions. The reports shall be submitted in accordance with the Standard Term and Conditions of this permit.

[Authority for term: OAC rule 3745-77-07(C)(1) and 40 CFR Part 64]

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 20% 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 and the procedures specified in OAC rule 3745-17-03(B)(1).

[Authority for term: OAC rules 3745-77-07(C)(1), 3745-17-07(A) and 40 CFR Part 64]

b. Emission Limitation:
Visible emissions of fugitive dust shall not exceed 20% opacity as a 3-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 and the procedures specified in OAC rule 3745-17-03(B)(3). The points of observation for the 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.

[Authority for term: OAC rules 3745-77-07(C)(1) and 3745-17-07(B)]

c. Emission Limitation:
Particulate emissions shall not exceed 44.7 lbs/hr.

Applicable Compliance Method:
Compliance may be determined by multiplying the emissions unit's maximum hourly material handling rate of 50.7 tons/hr and the combined uncontrolled Ohio EPA RACM emission factors in Table 2.9-1 for material batch weighing and material mixing [(0.06 lb/ton)x(1.0)x(1 - 0.999)], where 100% is the captured percentage of all particulate emissions and 99.9% is the baghouse removal efficiency.

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.

[Authority for term: OAC rule 3745-77-07(C)(1) and 3745-17-11(B)(1)]

g) Miscellaneous Requirements

(1) None.

9. P903, Nos. 1, 2 Continuous Mills, Nos. 4, 5 Batch Mills

Operations, Property and/or Equipment Description:

Conveying and feeding of frit material into the mill, classifying and screening the ground frit material and bagging of the screened product. Particulate emissions are controlled by seven baghouses, one each for mills 1 & 2, two in parallel for mill 4, two in parallel for mill 5, and a shared baghouse for mills 4 & 5.

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 3745-17-07(A)	Visible particulate emissions from any stack shall not exceed 20% opacity as a 6-minute average, except as provided by the rule.
b.	OAC rule 3745-17-07(B)	Visible emissions of fugitive dust shall not exceed 20% opacity as a 3-minute average.
c.	OAC rule 3745-17-08(B)	See b)(2)a. below.
d.	OAC rule 3745-17-11(B)(1)	Particulate emissions shall not exceed 2.58 lbs/hr.
e.	40 CFR Part 64 Compliance Assurance Monitoring (CAM)	See c)(1), d)(1), d)(3), e)(1) and e)(3) below.

(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; 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 1.0 to 8.0 inches of water while the emissions unit is in operation.

[Authority for term: OAC rule 3745-77-07(A)(1) and 40 CFR Part 64]

d) Monitoring and/or Recordkeeping Requirements

(1) The permittee shall properly operate and maintain equipment to monitor the pressure drop across the baghouse while the emissions unit is in operation. The monitoring equipment shall be calibrated, operated, and maintained in accordance with the manufacturer's recommendations, instructions, and operating manual(s). The permittee shall record the pressure drop across the baghouse once per day.

[Authority for term: OAC rule 3745-77-07(C)(1) and 40 CFR Part 64]

(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.

[Authority for term: OAC rule 3745-77-07(C)(1)]

(3) The CAM plan for this emissions unit has been developed for particulate emissions. The CAM performance indicator for particulate emissions is the pressure drop range for the baghouses.

The CAM performance indicator range as measured by the baghouse pressure drops is specified in c)(1). When the pressure drops are outside of the indicator range specified in c)(1), corrective action (including, but not limited to, an evaluation of the emissions unit and the control device) will be required.

Upon detecting an excursion of any of the particulate emission indicator ranges listed above, the owner or operator shall restore operation of the emissions unit (including the control devices) to its normal or usual manner of operation as expeditiously as practicable in accordance with good air pollution control practices for minimizing emissions. The response shall include minimizing the period of any startup, shutdown or malfunction and taking any necessary corrective actions to restore normal operation and prevent the likely recurrence of the cause of an excursion. Such actions may include initial inspection and evaluation, recording that operations returned to normal without operator action (such as thorough response by the computerized distribution control system), or any necessary follow-up actions to return operation to within the indicator range.

If a determination is made by the Administrator or Ohio EPA that the permittee has not used acceptable procedures in response to an excursion or exceedance based on the results of a determination made under 40 CFR Part 64.7(d)(2), the permittee may be required to develop a Quality Improvement Plan (QIP) consistent with the requirements of 40 CFR Part 64.8.

[Authority for term: OAC rule 3745-77-07(C)(1) and 40 CFR Part 64]

e) Reporting Requirements

(1) The permittee shall submit quarterly pressure drop deviation (excursion) reports to the Cleveland DAQ that identify all periods of time during which the pressure drop across the baghouse did not comply with the allowable range specified above.

[Authority for term: OAC rule 3745-77-07(C)(1) and 40 CFR Part 64]

(2) The permittee shall submit semiannual written reports to the Cleveland DAQ which (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.

[Authority for term: OAC rule 3745-77-07(C)(1)]

(3) If the results of monitoring or record keeping data indicate that the particulate emission limitations may have been exceeded, the permittee shall submit the results of that data, and document any corrective action taken to restore operation of the emissions unit, or its control equipment to its normal or usual manner of operation as expeditiously as

practicable in accordance with good air pollution control practices for minimizing emissions. The reports shall be submitted in accordance with the Standard Term and Conditions in this permit.

(4) [Authority for term: OAC rule 3745-77-07(C)(1) and 40 CFR Part 64]

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 20% 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 and the procedures specified in OAC rule 3745-17-03(B)(1).

[Authority for term: OAC rules 3745-77-07(C)(1), 3745-17-07(A) and 40 CFR Part 64]

b. Emission Limitation:

Visible particulate emissions of fugitive dust shall not exceed 20% opacity as a 3-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 and the procedures specified in OAC rule 3745-17-03(B)(3). The points of observation for the 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.

[Authority for term: OAC rules 3745-77-07(C)(1) and 3745-17-07(B)]

c. Emission Limitation:

Particulate emissions shall not exceed 2.58 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 ceramic clay milling (0.12 lb of particulate emissions/ton milled, with fabric collector) multiplied by the maximum production rate for the emissions unit (3.0 tons/hr).

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.

[Authority for term: OAC rules 3745-77-07(C)(1) and 3745-17-11(B)(1)]

g) Miscellaneous Requirements

(1) None.

10. P906, Smelter #3

Operations, Property and/or Equipment Description:

continuous frit smelter # 3 (production capacity: 1,800 lbs/hr max) equipped with four venturi scrubbers which operate independently and in parallel.

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 3745-17-07(A)	Visible particulate emissions from any stack shall not exceed 20% opacity as a 6-minute average, except as provided by the rule.
b.	OAC rule 3745-17-11(B)(1)	Particulate emissions shall not exceed 3.82 lbs/hr.

(2) Additional Terms and Conditions

a. None.

c) Operational Restrictions

(1) The permittee shall only burn natural gas in this emissions unit.

[Authority for term: OAC rule 3745-77-07(A)(1)]

(2) The pH of the scrubber liquor in each scrubber shall be maintained within the range of 6 and 10.

[Authority for term: OAC rule 3745-77-07(A)(1)]

(3) The pressure drop across each scrubber shall be continuously maintained at a value of not less than 30 inches of water at all times while the emissions unit is in operation.

[Authority for term: OAC rule 3745-77-07(A)(1)]

d) Monitoring and/or Recordkeeping Requirements

(1) The permittee shall properly operate and maintain equipment to continuously monitor and record the pH of the scrubber liquor and the pressure drop across each scrubber 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.

[Authority for term: OAC rule 3745-77-07(C)(1)]

(2) The permittee shall collect and record the following information each day for each scrubber:

a. the pH of the scrubber liquor;

b. the pressure drop across the scrubber, in inches of water; and

c. the downtime for the capture (collection) system, control device, and monitoring equipment, when the associated emissions unit was in operation.

[Authority for term: OAC rule 3745-77-07(C)(1)]

(3) For each day during which the permittee burns a fuel other than natural gas, the permittee shall maintain a record of the type and quantity of fuel burned in this emissions unit.

[Authority for term: OAC rule 3745-77-07(C)(1)]

(4) The permittee shall maintain records of production run times and the amount of frit processed in this emissions unit.

[Authority for term: OAC rule 3745-77-07(C)(1)]

e) Reporting Requirements

(1) The permittee shall submit quarterly deviation (excursion) reports to the 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 pressure drop across the scrubber; and

b. the pH of the scrubber liquor.

[Authority for term: OAC rule 3745-77-07(C)(1)]

(2) The permittee shall submit deviation (excursion) reports to the Cleveland DAQ that identify each day when a fuel other than natural gas was burned in this emissions unit. Each report shall be submitted within 30 days after the deviation occurs.

[Authority for term: OAC rule 3745-77-07(C)(1)]

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 20% 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 and the procedures specified in OAC rule 3745-17-03 (B)(1).

[Authority for term: OAC rules 3745-77-07(C)(1) and 3745-17-07(A)]

b. Emission Limitation:
Particulate emissions shall not exceed 3.82 lbs/hr.

Applicable Compliance Method:
Compliance shall be based upon the results of the emission testing specified in f)(2).

[Authority for term: OAC rules 3745-77-07(C)(1) and 3745-17-11(B)(1)]

(2) The permittee shall conduct, or have conducted, emission testing for this emissions unit in accordance with the following requirements:

The emission testing shall be conducted within 6 months prior to permit expiration.

The emission testing shall be conducted to demonstrate compliance with the particulate emission limitation and opacity.

The following test method shall be employed to demonstrate compliance with the particulate emission limitation and opacity: Methods 1-5 and Method 9 of 40 CFR Part 60, Appendix A. Alternative U.S. EPA approved test methods may be used with prior approval from the Ohio EPA.

The test(s) shall be conducted while at least 5 of the following emissions units (P032, P906, P909, P910, P911, P912, P913, P914, and P925) are vented to three of the venturi scrubbers. The emissions units shall be operated at or near their maximum capacities, unless otherwise specified or approved by the Cleveland DAQ.
The test(s) shall be conducted simultaneously at the exhaust stacks of the venturi scrubbers that are in operation during the compliance demonstration. The total particulate emission rate shall be the sum of the emission rates from each of the scrubbers in operation during the compliance demonstration. The total particulate emissions from all operating scrubbers will be divided equally to each operating smelter.

Not later than 30 days prior to the proposed test date(s), the permittee shall submit an "Intent to Test" notification to the Cleveland DAQ. The "Intent to Test" notification shall describe in detail the proposed test methods and procedures, the emissions unit operating parameters, the time(s) and date(s) of the test(s), and the person(s) who will be conducting the test(s). Failure to submit such notification for review and approval prior to the test(s) may result in the Cleveland DAQ's refusal to accept the results of the emission test(s).
Personnel from the Cleveland DAQ shall be permitted to witness the test(s), examine the testing equipment, and acquire data and information necessary to ensure that the operation of the emissions unit and the testing procedures provide a valid characterization of the emissions from the emissions unit and/or the performance of the control equipment.

A comprehensive written report on the results of the emission test(s) shall be signed by the person or persons responsible for the tests and submitted to the Cleveland DAQ within 30 days following completion of the test(s). The permittee may request additional time for the submittal of the written report, where warranted, with prior approval from the Cleveland DAQ.

[Authority for term: OAC rule 3745-77-07(C)(1)]

g) Miscellaneous Requirements

(1) None.

11. P909, Smelter #7

Operations, Property and/or Equipment Description:

continuous frit smelter # 7 (production capacity: 2,500 lbs/hr max) equipped with four venturi scrubbers which operate independently and in parallel.

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 3745-17-07(A)	Visible particulate emissions from any stack shall not exceed 20% opacity as a 6-minute average, except as provided by the rule.
b.	OAC rule 3745-17-11(B)(1)	Particulate emissions shall not exceed 4.76 lbs/hr.

(2) Additional Terms and Conditions

a. None.

c) Operational Restrictions

(1) The permittee shall only burn natural gas in this emissions unit.

[Authority for term: OAC rule 3745-77-07(A)(1)]

(2) The pH of the scrubber liquor in each scrubber shall be maintained within the range of 6 and 10.

[Authority for term: OAC rule 3745-77-07(A)(1)]

(3) The pressure drop across each scrubber shall be continuously maintained at a value of not less than 30 inches of water at all times while the emissions unit is in operation.

[Authority for term: OAC rule 3745-77-07(A)(1)]

d) Monitoring and/or Recordkeeping Requirements

(1) The permittee shall properly operate and maintain equipment to continuously monitor and record the pH of the scrubber liquor and the pressure drop across each scrubber 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.

[Authority for term: OAC rule 3745-77-07(C)(1)]

(2) The permittee shall collect and record the following information each day for each scrubber:

a. the pH of the scrubber liquor;

b. the pressure drop across the scrubber, in inches of water; and

c. the downtime for the capture (collection) system, control device, and monitoring equipment, when the associated emissions unit was in operation.

[Authority for term: OAC rule 3745-77-07(C)(1)]

(3) For each day during which the permittee burns a fuel other than natural gas, the permittee shall maintain a record of the type and quantity of fuel burned in this emissions unit.

[Authority for term: OAC rule 3745-77-07(C)(1)]

(4) The permittee shall maintain records of production run times and the amount of frit processed in this emissions unit.

[Authority for term: OAC rule 3745-77-07(C)(1)]

e) Reporting Requirements

(1) The permittee shall submit quarterly deviation (excursion) reports to the 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 pressure drop across the scrubber; and

b. the pH of the scrubber liquor.

[Authority for term: OAC rule 3745-77-07(C)(1)]

(2) The permittee shall submit deviation (excursion) reports to the Cleveland DAQ that identify each day when a fuel other than natural gas was burned in this emissions unit. Each report shall be submitted within 30 days after the deviation occurs.

[Authority for term: OAC rule 3745-77-07(C)(1)]

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 20% 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 and the procedures specified in OAC rule 3745-17-03 (B)(1).

[Authority for term: OAC rules 3745-77-07(C)(1) and 3745-17-07(A)]

b. Emission Limitation:
Particulate emissions shall not exceed 4.76 lbs/hr.

Applicable Compliance Method:
Compliance shall be based upon the results of the emission testing specified in f)(2).

[Authority for term: OAC rules 3745-77-07(C)(1) and 3745-17-11(B)(1)]

(2) The permittee shall conduct, or have conducted, emission testing for this emissions unit in accordance with the following requirements:

The emission testing shall be conducted within 6 months prior to permit expiration.

The emission testing shall be conducted to demonstrate compliance with the particulate emission limitation and opacity.

The following test method shall be employed to demonstrate compliance with the particulate emission limitation and opacity: Methods 1-5 and Method 9 of 40 CFR Part 60, Appendix A. Alternative U.S. EPA approved test methods may be used with prior approval from the Ohio EPA.

The test(s) shall be conducted while at least 5 of the following emissions units (P032, P906, P909, P910, P911, P912, P913, P914, and P925) are vented to three of the venturi scrubbers. The emissions units shall be operated at or near their maximum capacities, unless otherwise specified or approved by the Cleveland DAQ.
The test(s) shall be conducted simultaneously at the exhaust stacks of the venturi scrubbers that are in operation during the compliance demonstration. The total particulate emission rate shall be the sum of the emission rates from each of the scrubbers in operation during the compliance demonstration. The total particulate emissions from all operating scrubbers will be divided equally to each operating smelter.

Not later than 30 days prior to the proposed test date(s), the permittee shall submit an "Intent to Test" notification to the Cleveland DAQ. The "Intent to Test" notification shall describe in detail the proposed test methods and procedures, the emissions unit operating parameters, the time(s) and date(s) of the test(s), and the person(s) who will be conducting the test(s). Failure to submit such notification for review and approval prior to the test(s) may result in the Cleveland DAQ's refusal to accept the results of the emission test(s).
Personnel from the Cleveland DAQ shall be permitted to witness the test(s), examine the testing equipment, and acquire data and information necessary to ensure that the operation of the emissions unit and the testing procedures provide a valid characterization of the emissions from the emissions unit and/or the performance of the control equipment.

A comprehensive written report on the results of the emission test(s) shall be signed by the person or persons responsible for the tests and submitted to the Cleveland DAQ within 30 days following completion of the test(s). The permittee may request additional time for the submittal of the written report, where warranted, with prior approval from the Cleveland DAQ.

[Authority for term: OAC rule 3745-77-07(C)(1)]

g) Miscellaneous Requirements

(1) None.

12. P910, Smelter #8

Operations, Property and/or Equipment Description:

continuous frit smelter #8 (production capacity: 2,200 lbs/hr max.) equipped with four venturi scrubbers which operate independently and in parallel.

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 3745-17-07(A)	Visible particulate emissions from any stack shall not exceed 20% opacity as a 6-minute average, except as provided by the rule.
b.	OAC rule 3745-17-11(B)(1)	Particulate emissions shall not exceed 4.37 lbs/hr.

(2) Additional Terms and Conditions

a. None.

c) Operational Restrictions

(1) The permittee shall only burn natural gas in this emissions unit.

[Authority for term: OAC rule 3745-77-07(A)(1)]

(2) The pH of the scrubber liquor in each scrubber shall be maintained within the range of 6 and 10.

[Authority for term: OAC rule 3745-77-07(A)(1)]

(3) The pressure drop across each scrubber shall be continuously maintained at a value of not less than 30 inches of water at all times while the emissions unit is in operation.

[Authority for term: OAC rule 3745-77-07(A)(1)]

d) Monitoring and/or Recordkeeping Requirements

(1) The permittee shall properly operate and maintain equipment to continuously monitor and record the pH of the scrubber liquor and the pressure drop across each scrubber 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.

[Authority for term: OAC rule 3745-77-07(C)(1)]

(2) The permittee shall collect and record the following information each day for each scrubber:

a. the pH of the scrubber liquor;

b. the pressure drop across the scrubber, in inches of water; and

c. the downtime for the capture (collection) system, control device, and monitoring equipment, when the associated emissions unit was in operation.

[Authority for term: OAC rule 3745-77-07(C)(1)]

(3) The permittee shall maintain records of production run times and the amount of frit processed in this emissions unit.

[Authority for term: OAC rule 3745-77-07(C)(1)]

e) Reporting Requirements

(1) The permittee shall submit quarterly deviation (excursion) reports to the 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 pressure drop across the scrubber; and

b. the pH of the scrubber liquor.

[Authority for term: OAC rule 3745-77-07(C)(1)]

(2) The permittee shall submit deviation (excursion) reports to the Cleveland DAQ that identify each day when a fuel other than natural gas was burned in this emissions unit. Each report shall be submitted within 30 days after the deviation occurs.

[Authority for term: OAC rule 3745-77-07(C)(1)]

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 20% 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 and the procedures specified in OAC rule 3745-17-03 (B)(1).

[Authority for term: OAC rules 3745-77-07(C)(1) and 3745-17-07(A)]

b. Emission Limitation:
Particulate emissions shall not exceed 4.37 lbs/hr.

Applicable Compliance Method:
Compliance shall be based upon the results of the emission testing specified in f)(2).

[Authority for term: OAC rules 3745-77-07(C)(1) and 3745-17-11(B)(1)]

(2) The permittee shall conduct, or have conducted, emission testing for this emissions unit in accordance with the following requirements:

The emission testing shall be conducted within 6 months prior to permit expiration.

The emission testing shall be conducted to demonstrate compliance with the particulate emission limitation and opacity.

The following test method shall be employed to demonstrate compliance with the particulate emission limitation and opacity: Methods 1-5 and Method 9 of 40 CFR Part 60, Appendix A. Alternative U.S. EPA approved test methods may be used with prior approval from the Ohio EPA.

The test(s) shall be conducted while at least 5 of the following emissions units (P032, P906, P909, P910, P911, P912, P913, P914, and P925) are vented to three of the venturi scrubbers. The emissions units shall be operated at or near their maximum capacities, unless otherwise specified or approved by the Cleveland DAQ.
The test(s) shall be conducted simultaneously at the exhaust stacks of the venturi scrubbers that are in operation during the compliance demonstration. The total particulate emission rate shall be the sum of the emission rates from each of the scrubbers in operation during the compliance demonstration. The total particulate emissions from all operating scrubbers will be divided equally to each operating smelter.

Not later than 30 days prior to the proposed test date(s), the permittee shall submit an "Intent to Test" notification to the Cleveland DAQ. The "Intent to Test" notification shall describe in detail the proposed test methods and procedures, the emissions unit operating parameters, the time(s) and date(s) of the test(s), and the person(s) who will be conducting the test(s). Failure to submit such notification for review and approval prior to the test(s) may result in the Cleveland DAQ's refusal to accept the results of the

emission test(s).
Personnel from the Cleveland DAQ shall be permitted to witness the test(s), examine the testing equipment, and acquire data and information necessary to ensure that the operation of the emissions unit and the testing procedures provide a valid characterization of the emissions from the emissions unit and/or the performance of the control equipment.

A comprehensive written report on the results of the emission test(s) shall be signed by the person or persons responsible for the tests and submitted to the Cleveland DAQ within 30 days following completion of the test(s). The permittee may request additional time for the submittal of the written report, where warranted, with prior approval from the Cleveland DAQ.

[Authority for term: OAC rule 3745-77-07(C)(1)]

g) Miscellaneous Requirements

(1) None.

13. P911, Smelter #9

Operations, Property and/or Equipment Description:

continuous frit smelter #9 (production capacity: 2,000 lbs/hr max.) equipped with four venturi scrubbers which operate independently and in parallel

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 3745-17-07(A)	Visible particulate emissions from any stack shall not exceed 20% opacity as a 6-minute average, except as provided by the rule.
b.	OAC rule 3745-17-11(B)(1)	Particulate emissions shall not exceed 4.10 lbs/hr.

(2) Additional Terms and Conditions

a. None.

c) Operational Restrictions

(1) The permittee shall only burn natural gas in this emissions unit.

[Authority for term: OAC rule 3745-77-07(A)(1)]

(2) The pH of the scrubber liquor in each scrubber shall be maintained within the range of 6 and 10.

[Authority for term: OAC rule 3745-77-07(A)(1)]

(3) The pressure drop across each scrubber shall be continuously maintained at a value of not less than 30 inches of water at all times while the emissions unit is in operation.

[Authority for term: OAC rule 3745-77-07(A)(1)]

d) Monitoring and/or Recordkeeping Requirements

(1) The permittee shall properly operate and maintain equipment to continuously monitor and record the pH of the scrubber liquor and the pressure drop across each scrubber 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.

[Authority for term: OAC rule 3745-77-07(C)(1)]

(2) The permittee shall collect and record the following information each day for each scrubber:

a. the pH of the scrubber liquor;

b. the pressure drop across the scrubber, in inches of water; and

c. the downtime for the capture (collection) system, control device, and monitoring equipment, when the associated emissions unit was in operation.

[Authority for term: OAC rule 3745-77-07(C)(1)]

(3) For each day during which the permittee burns a fuel other than natural gas, the permittee shall maintain a record of the type and quantity of fuel burned in this emissions unit.

[Authority for term: OAC rule 3745-77-07(C)(1)]

(4) The permittee shall maintain records of production run times and the amount of frit processed in this emissions unit.

[Authority for term: OAC rule 3745-77-07(C)(1)]

e) Reporting Requirements

(1) The permittee shall submit quarterly deviation (excursion) reports to the 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 pressure drop across the scrubber; and

b. the pH of the scrubber liquor.

[Authority for term: OAC rule 3745-77-07(C)(1)]

(2) The permittee shall submit deviation (excursion) reports to the Cleveland DAQ that identify each day when a fuel other than natural gas was burned in this emissions unit. Each report shall be submitted within 30 days after the deviation occurs.

[Authority for term: OAC rule 3745-77-07(C)(1)]

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 20% 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 and the procedures specified in OAC rule 3745-17-03 (B)(1).

[Authority for term: OAC rules 3745-77-07(C)(1) and 3745-17-07(A)]

b. Emission Limitation:
Particulate emissions shall not exceed 4.10 lbs/hr.

Applicable Compliance Method:
Compliance shall be based upon the results of the emission testing specified in f)(2).

[Authority for term: OAC rules 3745-77-07(C)(1) and 3745-17-11(B)(1)]

(2) The permittee shall conduct, or have conducted, emission testing for this emissions unit in accordance with the following requirements:

The emission testing shall be conducted within 6 months prior to permit expiration.

The emission testing shall be conducted to demonstrate compliance with the particulate emission limitation and opacity.

The following test method shall be employed to demonstrate compliance with the particulate emission limitation and opacity: Methods 1-5 and Method 9 of 40 CFR Part 60, Appendix A. Alternative U.S. EPA approved test methods may be used with prior approval from the Ohio EPA.

The test(s) shall be conducted while at least 5 of the following emissions units (P032, P906, P909, P910, P911, P912, P913, P914, and P925) are vented to three of the venturi scrubbers. The emissions units shall be operated at or near their maximum capacities, unless otherwise specified or approved by the Cleveland DAQ.
The test(s) shall be conducted simultaneously at the exhaust stacks of the venturi scrubbers that are in operation during the compliance demonstration. The total particulate emission rate shall be the sum of the emission rates from each of the scrubbers in operation during the compliance demonstration. The total particulate emissions from all operating scrubbers will be divided equally to each operating smelter.

Not later than 30 days prior to the proposed test date(s), the permittee shall submit an "Intent to Test" notification to the Cleveland DAQ. The "Intent to Test" notification shall describe in detail the proposed test methods and procedures, the emissions unit operating parameters, the time(s) and date(s) of the test(s), and the person(s) who will be conducting the test(s). Failure to submit such notification for review and approval prior to the test(s) may result in the Cleveland DAQ's refusal to accept the results of the emission test(s).

Personnel from the Cleveland DAQ shall be permitted to witness the test(s), examine the testing equipment, and acquire data and information necessary to ensure that the operation of the emissions unit and the testing procedures provide a valid characterization of the emissions from the emissions unit and/or the performance of the control equipment.

A comprehensive written report on the results of the emission test(s) shall be signed by the person or persons responsible for the tests and submitted to the Cleveland DAQ within 30 days following completion of the test(s). The permittee may request additional time for the submittal of the written report, where warranted, with prior approval from the Cleveland DAQ.

[Authority for term: OAC rule 3745-77-07(C)(1)]

g) Miscellaneous Requirements

(1) None.

14. P912, Smelter #10

Operations, Property and/or Equipment Description:

continuous frit smelter #10 (production capacity: 3,000 lbs/hr max.) equipped with four venturi scrubbers which operate independently and in parallel

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) (PTI#13-04177 issued June 29, 2004)	Particulate emissions shall not exceed 1.14 lbs/hr and 4.12 TPY. Nitrogen dioxide emissions shall not exceed 18.2 lbs/hr. Carbon monoxide emissions shall not exceed 6.24 lbs/hr and 22.6 TPY The requirements of this rule also include compliance with the requirements of OAC rule 3745-17-07(A).
b.	OAC rule 3745-17-07(A)	Visible particulate emissions from any stack shall not exceed 20% opacity as a 6-minute average, except as provided by the rule.
c.	OAC rule 3745-17-11(B)(1)	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).

	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
d.	OAC rule 3745-31-05(C) Synthetic Minor to avoid PSD	Nitrogen dioxide emissions shall not exceed 65.8 TPY as a 12-month rolling summation
e.	40 CFR Part 60 Subpart CC	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. None.

c) Operational Restrictions

(1) The permittee shall only burn natural gas in this emissions unit.

[Authority for term: OAC rules 3745-77-07(A)(1) and 3745-31-05(A)(3) and PTI#13-04177]

(2) The pH of the scrubber liquor in each scrubber shall be maintained within the range of 6 and 10.

[Authority for term: OAC rules 3745-77-07(A)(1) and 3745-31-05(A)(3) and PTI#13-04177]

(3) The pressure drop across each scrubber shall be continuously maintained at a value of not less than 30 inches of water at all times while the emissions unit is in operation.

[Authority for term: OAC rules 3745-77-07(A)(1) and 3745-31-05(A)(3) and PTI#13-04177]

(4) The maximum annual operating hours for this emissions unit shall not exceed 7,234 hrs, based upon a rolling, 12-month summation of the operating hours.

[Authority for term: OAC rules 3745-77-07(A)(1) and 3745-31-05(A)(3) and PTI#13-04177]

(5) The maximum average hourly amount of frit processed in this emissions unit shall not exceed 2,600 pounds.

[Authority for term: OAC rules 3745-77-07(A)(1) and 3745-31-05(A)(3) and PTI#13-04177]

d) Monitoring and/or Recordkeeping Requirements

(1) The permittee shall properly operate and maintain equipment to continuously monitor and record the pH of the scrubber liquor and the pressure drop across each scrubber 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.

[Authority for term: OAC rules 3745-77-07(C)(1) and 3745-31-05(A)(3) and PTI#13-04177]

(2) The permittee shall collect and record the following information each day for each scrubber:

a. the pH of the scrubber liquor;

b. the pressure drop across the scrubber, in inches of water; and

c. the downtime for the capture (collection) system, control device, and monitoring equipment, when the associated emissions unit was in operation.

[Authority for term: OAC rules 3745-77-07(C)(1) and 3745-31-05(A)(3) and PTI#13-04177]

(3) For each day during which the permittee burns a fuel other than natural gas, the permittee shall maintain a record of the type and quantity of fuel burned in this emissions unit.

[Authority for term: OAC rules 3745-77-07(C)(1) and 3745-31-05(A)(3) and PTI#13-04177]

(4) The permittee shall maintain records of production run times and the amount of frit processed in this emissions unit.

[Authority for term: OAC rules 3745-77-07(C)(1) and 3745-31-05(A)(3) and PTI#13-04177]

(5) The permittee shall maintain daily records of the average hourly production rate (in pounds per hour) of frit processed in this emissions unit.

[Authority for term: OAC rules 3745-77-07(C)(1) and 3745-31-05(A)(3) and PTI#13-04177]

(6) The permittee shall maintain monthly records of the following information:

a. the operating hours for each month; and

b. the rolling, 12-month summation of the operating hours.

[Authority for term: OAC rules 3745-77-07(C)(1) and 3745-31-05(A)(3) and PTI#13-04177]

e) Reporting Requirements

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

a. pressure drop across the scrubber; and

b. the pH of the scrubber liquor.

[Authority for term: OAC rules 3745-77-07(C)(1) and 3745-31-05(A)(3) and PTI#13-04177]

(2) The permittee shall submit deviation (excursion) reports to the Cleveland DAQ which identify all exceedances of the rolling, 12-month operating hours limitation. Each report shall be submitted within 30 days after the deviation occurs.

[Authority for term: OAC rules 3745-77-07(C)(1) and 3745-31-05(A)(3) and PTI#13-04177]

(3) The permittee shall submit quarterly deviation (excursion) reports to the Cleveland DAQ that identify each instance when the emissions unit exceeded the average hourly production rate restriction of 2,600 lbs/hour of frit.

[Authority for term: OAC rules 3745-77-07(C)(1) and 3745-31-05(A)(3) and PTI#13-04177]

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:
Particulate emissions shall not exceed 1.14 lbs/hr.

Applicable Compliance Method:
Compliance shall be based upon the results of the emission testing specified in f)(2).

[Authority for term: OAC rules 3745-77-07(C)(1) and 3745-31-05(A)(3) and PTI#13-04177]

b. Emission Limitation:
Particulate emissions shall not exceed 4.12 TPY.

Applicable Compliance Method:
Compliance shall be determined by multiplying the results of the emissions testing required in f)(2) (in lb/ton) by the actual annual amount of frit material processed in this emissions unit (tons/yr) and the factor of (ton/2000 lbs).

[Authority for term: OAC rules 3745-77-07(C)(1) and 3745-31-05(A)(3) and PTI#13-04177]

c. Emission Limitation:
Nitrogen dioxide emissions shall not exceed 18.2 lbs/hr.

Applicable Compliance Method:
Emission testing was conducted for this emissions unit in April 2003 during which an emission factor of 10.14 lbs of NOx emissions per ton of frit produced was determined. Compliance may be determined by multiplying this emission factor by the actual average hourly process weight (in tons/hour).

If required, the permittee shall demonstrate compliance with this emission limitation through emission testing performed in accordance with Method 7 of 40 CFR Part 60, Appendix A.

[Authority for term: OAC rules 3745-77-07(C)(1) and 3745-31-05(A)(3) and PTI#13-04177]

d. Emission Limitation -
Nitrogen dioxide emissions shall not exceed 65.8 TPY as a 12-month rolling summation.

Applicable Compliance Method -
Compliance with the above limitation shall be determined by multiplying the stack test emission factor of 10.14 lbs of NOx emissions per ton of frit produced by the actual annual amount of frit material processed in this emissions unit (tons/yr) and the factor of (ton/2000 lbs).

[Authority for term: OAC rules 3745-77-07(C)(1) and 3745-31-05(A)(3) and PTI#13-04177]

e. Emission Limitation:
Carbon monoxide emissions shall not exceed 6.24 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 manufacturing (4.8 lbs/ton), which is multiplied by the actual average hourly process weight rate (in tons/hr).

If required, the permittee shall demonstrate compliance with this emission limitation through emission testing performed in accordance with Method 10 of 40 CFR Part 60, Appendix A.

[Authority for term: OAC rules 3745-77-07(C)(1) and 3745-31-05(A)(3) and PTI#13-04177]

f. Emission Limitation:
Carbon monoxide emissions shall not exceed 22.6 TPY.

Applicable Compliance Method:
Compliance shall be determined by the use of the U.S. EPA database, FIRE 6.22 emission factor for frit manufacturing (4.8 lbs/ton), which is multiplied by the actual annual amount of frit material processed in this emissions unit (tons/yr) and the factor of (ton/2,000 lbs).

[Authority for term: OAC rules 3745-77-07(C)(1) and 3745-31-05(A)(3) and PTI#13-04177]

g. Emission Limitation:
Visible particulate emissions from any stack shall not exceed 20% 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 and the procedures specified in OAC rule 3745-17-03 (B)(1).

[Authority for term: OAC rules 3745-77-07(C)(1), 3745-17-07(A), 3745-31-05(A)(3) and PTI#13-04177]

(2) The permittee shall conduct, or have conducted, emission testing for this emissions unit in accordance with the following requirements:

The emission testing shall be conducted within 6 months prior to permit expiration.

The emission testing shall be conducted to demonstrate compliance with the particulate emission limitation and opacity.

The following test method shall be employed to demonstrate compliance with the particulate emission limitation and opacity: Methods 1-5 and Method 9 of 40 CFR Part 60, Appendix A. Alternative U.S. EPA approved test methods may be used with prior approval from the Ohio EPA.

The test(s) shall be conducted while at least 5 of the following emissions units (P032, P906, P909, P910, P911, P912, P913, P914, and P925) are vented to three of the venturi scrubbers. The emissions units shall be operated at or near their maximum capacities, unless otherwise specified or approved by the Cleveland DAQ.

The test(s) shall be conducted simultaneously at the exhaust stacks of the venturi scrubbers that are in operation during the compliance demonstration. The total particulate emission rate shall be the sum of the emission rates from each of the scrubbers in operation during the compliance demonstration. The total particulate emissions from all operating scrubbers will be divided equally to each operating smelter.

Not later than 30 days prior to the proposed test date(s), the permittee shall submit an "Intent to Test" notification to the Cleveland DAQ. The "Intent to Test" notification shall describe in detail the proposed test methods and procedures, the emissions unit operating parameters, the time(s) and date(s) of the test(s), and the person(s) who will be conducting the test(s). Failure to submit such notification for review and approval prior to the test(s) may result in the Cleveland DAQ's refusal to accept the results of the emission test(s).

Personnel from the Cleveland DAQ shall be permitted to witness the test(s), examine the testing equipment, and acquire data and information necessary to ensure that the operation of the emissions unit and the testing procedures provide a valid characterization of the emissions from the emissions unit and/or the performance of the control equipment.

A comprehensive written report on the results of the emission test(s) shall be signed by the person or persons responsible for the tests and submitted to the Cleveland DAQ within 30 days following completion of the test(s). The permittee may request additional time for the submittal of the written report, where warranted, with prior approval from the Cleveland DAQ.

[Authority for term: OAC rule 3745-77-07(C)(1)]

g) Miscellaneous Requirements

(1) None.

15. 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) Permit # P0116702 issued on 7/2/2014	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.
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).

	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
f.	40 CFR Part 64 Compliance Assurance Monitoring (CAM)	See c)(1), c)(3), d)(1), d)(3) – d)(9), e)(1), e)(3) and e)(4) below.

(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.

[Authority for term: OAC rules 3745-77-07(A)(1) and 3745-31-05(A)(3) and Permit # P0116702 and 40 CFR Part 64]

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

[Authority for term: OAC rules 3745-77-07(A)(1) and 3745-31-05(A)(3) and Permit # P0116702]

(3) The permittee shall operate the baghouse for this emissions unit in accordance with the Preventative Maintenance Plan (PMP) submitted on February 22, 2012 to the Cleveland Division of Air Quality (Cleveland DAQ). The PMP shall serve as an operational restriction for the baghouse. Any future revisions to the PMP must be approved by the Cleveland DAQ.

[Authority for term: OAC rules 3745-77-07(A)(1) and 3745-31-05(A)(3) and Permit # P0116702 and 40 CFR Part 64]

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.

[Authority for term: OAC rules 3745-77-07(C)(1) and 3745-31-05(A)(3) and Permit # P0116702 and 40 CFR Part 64]

(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.

[Authority for term: OAC rules 3745-77-07(C)(1) and 3745-31-05(A)(3) and Permit # P0116702]

(3) The CAM plan for this emissions unit has been developed for particulate emissions. The CAM performance indicators for particulate emissions are the pressure drop range for the baghouse and the fabric filter bag leak detection system.

The CAM performance indicator range as measured by the baghouse pressure drop is specified in c)(1). When the pressure drop is outside of the indicator range specified in c)(1), corrective action (including, but not limited to, an evaluation of the emissions unit and the control device) will be required.

The CAM performance indicator range as measured by the bag leak detection system is specified in d)(5). When a fabric filter bag leak detection system alarms, as specified in d)(6), corrective action (including, but not limited to, an evaluation of the emissions unit and the control device) will be required.

Upon detecting an excursion of any of the particulate emission indicator ranges listed above, the owner or operator shall restore operation of the emissions unit (including the control devices) to its normal or usual manner of operation as expeditiously as practicable in accordance with good air pollution control practices for minimizing emissions. The response shall include minimizing the period of any startup, shutdown or malfunction and taking any necessary corrective actions to restore normal operation and prevent the likely recurrence of the cause of an excursion. Such actions may include initial inspection and evaluation, recording that operations returned to normal without operator action (such as thorough response by the computerized distribution control system), or any necessary follow-up actions to return operation to within the indicator range.

If a determination is made by the Administrator or Ohio EPA that the permittee has not used acceptable procedures in response to an excursion or exceedance based on the results of a determination made under 40 CFR Part 64.7(d)(2), the permittee may be required to develop a Quality Improvement Plan (QIP) consistent with the requirements of 40 CFR Part 64.8.

[Authority for term: OAC rule 3745-77-07(C)(1) and 40 CFR Part 64]

(4) The permittee shall 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.

[Authority for term: OAC rules 3745-77-07(C)(1) and 3745-31-05(A)(3) and Permit # P0116702 and 40 CFR Part 64]

(5) 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.

[Authority for term: OAC rules 3745-77-07(C)(1) and 3745-31-05(A)(3) and Permit # P0116702 and 40 CFR Part 64]

(6) 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.

[Authority for term: OAC rules 3745-77-07(C)(1) and 3745-31-05(A)(3) and Permit # P0116702 and 40 CFR Part 64]

(7) 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.

[Authority for term: OAC rules 3745-77-07(C)(1) and 3745-31-05(A)(3) and Permit # P0116702 and 40 CFR Part 64]

(8) 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.

[Authority for term: OAC rules 3745-77-07(C)(1), 3745-31-05(A)(3) and Permit # P0116702 and 40 CFR Part 64]

(9) 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.

[Authority for term: OAC rules 3745-77-07(C)(1), 3745-31-05(A)(3) and Permit # P0116702 and 40 CFR Part 64]

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.

[Authority for term: OAC rules 3745-77-07(C)(1) and 3745-31-05(A)(3) and Permit # P0116702 and 40 CFR Part 64]

(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.

[Authority for term: OAC rules 3745-77-07(C)(1) and 3745-31-05(A)(3) and Permit # P0116702]

(3) If the results of monitoring or record keeping data indicate that the particulate emission limitations may have been exceeded, the permittee shall submit the results of that data, and document any corrective action taken to restore operation of the emissions unit, or its control equipment to its normal or usual manner of operation as expeditiously as practicable in accordance with good air pollution control practices for minimizing emissions. The reports shall be submitted in accordance with the Standard Term and Conditions of this permit.

[Authority for term: OAC rule 3745-77-07(C)(1) and 40 CFR Part 64]

(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.

[Authority for term: OAC rules 3745-77-07(C)(1) and 3745-31-05(A)(3) and Permit # P0116702 and 40 CFR Part 64]

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:

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.

[Authority for term: OAC rules 3745-77-07(C)(1) and 3745-17-03(B)(1) and 3745-31-05(A)(3) and Permit # P0116702]

a. 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.

[Authority for term: OAC rules 3745-77-07(C)(1) and 3745-31-05(A)(3) and Permit # P0116702]

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

Applicable Compliance Method:
The annual allowable emission limitation was developed by multiplying the hourly allowable emission rate by a maximum operating schedule of 8,760 hours per year, and dividing by 2,000 lbs per ton. Therefore, provided compliance is shown with the hourly limitation, compliance with the annual limitation will be assumed.

[Authority for term: OAC rules 3745-77-07(C)(1) and 3745-31-05(A)(3) and Permit # P0116702]

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

[Authority for term: OAC rules 3745-77-07(C)(1), 3745-17-07(B), 3745-17-03(B)(3), 3745-31-05(A)(3) and Permit # P0116702]

g) Miscellaneous Requirements

(1) None.

16. P921, SM#7FF

Operations, Property and/or Equipment Description:

feeding, crushing and bagging operations for smelter #7 (production capacity 2,500 lbs/hr max) equipped with a baghouse

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 3745-17-07(A)	Visible particulate emissions from any stack shall not exceed 20% opacity as a 6-minute average, except as provided by the rule.
b.	OAC rule 3745-17-07(B)	Visible emissions of fugitive dust shall not exceed 20% opacity as a 3-minute average.
c.	OAC rule 3745-17-08(B)	See b)(2)a. below.
d.	OAC rule 3745-17-11(B)(1)	Particulate emissions shall not exceed 4.76 lbs/hr.
e.	40 CFR Part 64 Compliance Assurance Monitoring (CAM)	See c)(1), d)(1), d)(3), e)(1) and e)(3) below.

(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 1.0 to 8.0 inches of water while the emissions unit is in operation.

[Authority for term: OAC rule 3745-77-07(A)(1) and 40 CFR Part 64]

d) Monitoring and/or Recordkeeping Requirements

(1) The permittee shall properly operate and maintain equipment to monitor the pressure drop across the baghouse while the emissions unit is in operation. The monitoring equipment shall be calibrated, operated, and maintained in accordance with the manufacturer's recommendations, instructions, and operating manual(s). The permittee shall record the pressure drop across the baghouse once per day.

[Authority for term: OAC rule 3745-77-07(C)(1) and 40 CFR Part 64]

(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.
[Authority for term: OAC rule 3745-77-07(C)(1)]

(3) The CAM plan for this emissions unit has been developed for particulate emissions. The CAM performance indicator for particulate emissions is the pressure drop range for the baghouse.

The CAM performance indicator range as measured by the baghouse pressure drop is specified in c)(1). When the pressure drop is outside of the indicator range specified in c)(1), corrective action (including, but not limited to, an evaluation of the emissions unit and the control device) will be required.

Upon detecting an excursion of any of the particulate emission indicator ranges listed above, the owner or operator shall restore operation of the emissions unit (including the control devices) to its normal or usual manner of operation as expeditiously as practicable in accordance with good air pollution control practices for minimizing emissions. The response shall include minimizing the period of any startup, shutdown or malfunction and taking any necessary corrective actions to restore normal operation and prevent the likely recurrence of the cause of an excursion. Such actions may include initial inspection and evaluation, recording that operations returned to normal without operator action (such as thorough response by the computerized distribution control system), or any necessary follow-up actions to return operation to within the indicator range.

If a determination is made by the Administrator or Ohio EPA that the permittee has not used acceptable procedures in response to an excursion or exceedance based on the results of a determination made under 40 CFR Part 64.7(d)(2), the permittee may be required to develop a Quality Improvement Plan (QIP) consistent with the requirements of 40 CFR Part 64.8.

[Authority for term: OAC rule 3745-77-07(C)(1) and 40 CFR Part 64]

e) Reporting Requirements

(1) The permittee shall submit quarterly pressure drop deviation (excursion) reports to the Cleveland DAQ that identify all periods of time during which the pressure drop across the baghouse did not comply with the allowable range specified above.

[Authority for term: OAC rule 3745-77-07(C)(1) and 40 CFR Part 64]

(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.

[Authority for term: OAC rule 3745-77-07(C)(1)]

(3) If the results of monitoring or record keeping data indicate that the particulate emission limitations may have been exceeded, the permittee shall submit the results of that data, and document any corrective action taken to restore operation of the emissions unit, or

its control equipment to its normal or usual manner of operation as expeditiously as practicable in accordance with good air pollution control practices for minimizing emissions. The reports shall be submitted in accordance with the Standard Term and Conditions of this permit.

[Authority for term: OAC rule 3745-77-07(C)(1) and 40 CFR Part 64]

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 20% 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 and the procedures specified in OAC rule 3745-17-03(B)(1).

[Authority for term: OAC rules 3745-77-07(C)(1) and 3745-17-07(A)]

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

[Authority for term: OAC rules 3745-77-07(C)(1) and 3745-17-07(B)]

c. Emission Limitation:
Particulate emissions shall not exceed 4.76 lbs/hr.

Applicable Compliance Method:
Compliance may be determined by multiplying an assumed PE grain loading emission factor of 0.03 gr/dscf from the baghouse oulet* by the baghouse rated exhaust flow rate of 3,500 dscf/min, multiplying by 60 min/hr and dividing by 7,000 grains/lb.

*The grain loading emission factor is based upon the baghouse manufacturer's design filtering efficiency.

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.

[Authority for term: OAC rules 3745-77-07(C)(1) and 3745-17-11(B)(1)]

g) Miscellaneous Requirements

(1) None.

17. P922, SM#8FF

Operations, Property and/or Equipment Description:

feeding, crushing and bagging operations for smelter #8 (production capacity 2,200 lbs/hr max) equipped with a baghouse

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 3745-17-07(A)	Visible particulate emissions from any stack shall not exceed 20% opacity as a 6-minute average, except as provided by the rule.
b.	OAC rule 3745-17-07(B)	Visible emissions of fugitive dust shall not exceed 20% opacity as a 3-minute average.
c.	OAC rule 3745-17-08(B)	See b)(2)a. below.
d.	OAC rule 3745-17-11(B)	Particulate emissions shall not exceed 4.37 lbs/hr.
e.	40 CFR Part 64 Compliance Assurance Monitoring (CAM)	See c)(1), d)(1), d)(3), e)(1) and e)(3) below.

(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 1.0 to 8.0 inches of water while the emissions unit is in operation.

[Authority for term: OAC rule 3745-77-07(A)(1) and 40 CFR Part 64]

d) Monitoring and/or Recordkeeping Requirements

(1) The permittee shall properly operate and maintain equipment to monitor the pressure drop across the baghouse while the emissions unit is in operation. The monitoring equipment shall be calibrated, operated, and maintained in accordance with the manufacturer's recommendations, instructions, and operating manual(s). The permittee shall record the pressure drop across the baghouse once per day.

[Authority for term: OAC rule 3745-77-07(C)(1) and 40 CFR Part 64]

(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.
[Authority for term: OAC rule 3745-77-07(C)(1)]

(3) The CAM plan for this emissions unit has been developed for particulate emissions. The CAM performance indicator for particulate emissions is the pressure drop range for the baghouse.

The CAM performance indicator range as measured by the baghouse pressure drop is specified in c)(1). When the pressure drop is outside of the indicator range specified in c)(1), corrective action (including, but not limited to, an evaluation of the emissions unit and the control device) will be required.

Upon detecting an excursion of any of the particulate emission indicator ranges listed above, the owner or operator shall restore operation of the emissions unit (including the control devices) to its normal or usual manner of operation as expeditiously as practicable in accordance with good air pollution control practices for minimizing emissions. The response shall include minimizing the period of any startup, shutdown or malfunction and taking any necessary corrective actions to restore normal operation and prevent the likely recurrence of the cause of an excursion. Such actions may include initial inspection and evaluation, recording that operations returned to normal without operator action (such as thorough response by the computerized distribution control system), or any necessary follow-up actions to return operation to within the indicator range.

If a determination is made by the Administrator or Ohio EPA that the permittee has not used acceptable procedures in response to an excursion or exceedance based on the results of a determination made under 40 CFR Part 64.7(d)(2), the permittee may be required to develop a Quality Improvement Plan (QIP) consistent with the requirements of 40 CFR Part 64.8.

[Authority for term: OAC rule 3745-77-07(C)(1) and 40 CFR Part 64]

e) Reporting Requirements

(1) The permittee shall submit quarterly pressure drop deviation (excursion) reports to the Cleveland DAQ that identify all periods of time during which the pressure drop across the baghouse did not comply with the allowable range specified above.

[Authority for term: OAC rule 3745-77-07(C)(1) and 40 CFR Part 64]

(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.

[Authority for term: OAC rule 3745-77-07(C)(1)]

(3) If the results of monitoring or record keeping data indicate that the particulate emission limitations may have been exceeded, the permittee shall submit the results of that data, and document any corrective action taken to restore operation of the emissions unit, or

its control equipment to its normal or usual manner of operation as expeditiously as practicable in accordance with good air pollution control practices for minimizing emissions. The reports shall be submitted in accordance with the Standard Term and Conditions of this permit.

[Authority for term: OAC rule 3745-77-07(C)(1) and 40 CFR Part 64]

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 20% 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 and the procedures specified in OAC rule 3745-17-03(B)(1).

[Authority for term: OAC rules 3745-77-07(C)(1) and 3745-17-07(A)]

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

[Authority for term: OAC rules 3745-77-07(C)(1) and 3745-17-07(B)]

c. Emission Limitation:
Particulate emissions shall not exceed 4.37 lbs/hr.

Applicable Compliance Method:
Compliance may be determined by multiplying an assumed PE grain loading emission factor of 0.03 gr/dscf from the baghouse oulet* by the baghouse rated exhaust flow rate of 3,500 dscf/min, multiplying by 60 min/hr and dividing by 7,000 grains/lb.

*The grain loading emission factor is based upon the baghouse manufacturer's design filtering efficiency.

d. 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.

[Authority for term: OAC rules 3745-77-07(C)(1) and 3745-17-11(B)]

g) Miscellaneous Requirements

(1) None.

18. P923, SM#9FF

Operations, Property and/or Equipment Description:

feeding, crushing and bagging operations for smelter #9 (production capacity 2,000 lbs/hr max) equipped with a baghouse

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 3745-17-07(A)	Visible particulate emissions from any stack shall not exceed 20% opacity as a 6-minute average, except as provided by the rule.
b.	OAC rule 3745-17-07(B)	Visible emissions of fugitive dust shall not exceed 20% opacity as a 3-minute average.
c.	OAC rule 3745-17-08(B)	See b)(2)a. below.
d.	OAC rule 3745-17-11(B)	Particulate emissions shall not exceed 4.10 lbs/hr.
e.	40 CFR Part 64 Compliance Assurance Monitoring (CAM)	See c)(1), d)(1), d)(3), e)(1) and e)(3) below.

(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 1.0 to 8.0 inches of water while the emissions unit is in operation.

[Authority for term: OAC rule 3745-77-07(A)(1) and 40 CFR Part 64]

d) Monitoring and/or Recordkeeping Requirements

(1) The permittee shall properly operate and maintain equipment to monitor the pressure drop across the baghouse while the emissions unit is in operation. The monitoring equipment shall be calibrated, operated, and maintained in accordance with the manufacturer's recommendations, instructions, and operating manual(s). The permittee shall record the pressure drop across the baghouse once per day.

[Authority for term: OAC rule 3745-77-07(C)(1) and 40 CFR Part 64]

(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.
[Authority for term: OAC rule 3745-77-07(C)(1)]

(3) The CAM plan for this emissions unit has been developed for particulate emissions. The CAM performance indicator for particulate emissions is the pressure drop range for the baghouse.

The CAM performance indicator range as measured by the baghouse pressure drop is specified in c)(1). When the pressure drop is outside of the indicator range specified in c)(1), corrective action (including, but not limited to, an evaluation of the emissions unit and the control device) will be required.

Upon detecting an excursion of any of the particulate emission indicator ranges listed above, the owner or operator shall restore operation of the emissions unit (including the control devices) to its normal or usual manner of operation as expeditiously as practicable in accordance with good air pollution control practices for minimizing emissions. The response shall include minimizing the period of any startup, shutdown or malfunction and taking any necessary corrective actions to restore normal operation and prevent the likely recurrence of the cause of an excursion. Such actions may include initial inspection and evaluation, recording that operations returned to normal without operator action (such as thorough response by the computerized distribution control system), or any necessary follow-up actions to return operation to within the indicator range.

If a determination is made by the Administrator or Ohio EPA that the permittee has not used acceptable procedures in response to an excursion or exceedance based on the results of a determination made under 40 CFR Part 64.7(d)(2), the permittee may be required to develop a Quality Improvement Plan (QIP) consistent with the requirements of 40 CFR Part 64.8.

[Authority for term: OAC rule 3745-77-07(C)(1) and 40 CFR Part 64]

e) Reporting Requirements

(1) The permittee shall submit quarterly pressure drop deviation (excursion) reports to the Cleveland DAQ that identify all periods of time during which the pressure drop across the baghouse did not comply with the allowable range specified above.

[Authority for term: OAC rule 3745-77-07(C)(1) and 40 CFR Part 64]

(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.

[Authority for term: OAC rule 3745-77-07(C)(1)]

(3) If the results of monitoring or record keeping data indicate that the particulate emission limitations may have been exceeded, the permittee shall submit the results of that data, and document any corrective action taken to restore operation of the emissions unit, or

its control equipment to its normal or usual manner of operation as expeditiously as practicable in accordance with good air pollution control practices for minimizing emissions. The reports shall be submitted in accordance with the Standard Term and Conditions of this permit.

[Authority for term: OAC rule 3745-77-07(C)(1) and 40 CFR Part 64]

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 20% 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 and the procedures specified in OAC rule 3745-17-03(B)(1).

[Authority for term: OAC rules 3745-77-07(C)(1) and 3745-17-07(A)]

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

[Authority for term: OAC rules 3745-77-07(C)(1) and 3745-17-07(B)]

c. Emission Limitation:
Particulate emissions shall not exceed 4.10 lbs/hr.

Applicable Compliance Method:
Compliance may be determined by multiplying an assumed PE grain loading emission factor of 0.03 gr/dscf from the baghouse oulet* by the baghouse rated exhaust flow rate of 3,500 dscf/min, multiplying by 60 min/hr and dividing by 7,000 grains/lb.

*The grain loading emission factor is based upon the baghouse manufacturer's design filtering efficiency.

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.

[Authority for term: OAC rules 3745-77-07(C)(1) and 3745-17-11(B)]

g) Miscellaneous Requirements

(1) None.

19. P924, SM#10FF

Operations, Property and/or Equipment Description:

feeding, crushing and bagging operations for smelter #10 (production capacity 3,000 lbs/hr max) equipped with a baghouse

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)(PTI#13-04177 issued June 29, 2004)	Particulate emissions shall not exceed 0.01 grains/dscf of exhaust gases and 1.08 TPY. The requirements of this rule also include compliance with the requirements of OAC rule 3745-17-07(A) and 3745-17-07(B). See b)(2)a.
b.	OAC rule 3745-17-07(A)	Visible particulate emissions from any stack shall not exceed 20% opacity as a 6-minute average, except as provided by the rule.
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)	The control measures specified by this rule are equivalent to the control measures established pursuant to OAC rule 3745-31-05(A)(3).

	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
e.	OAC rule 3745-17-11(B)(1)	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).
f.	40 CFR Part 64 Compliance Assurance Monitoring (CAM)	See c)(1), d)(1), d)(6), e)(1) and e)(5) below.

(2) Additional Terms and Conditions

a. The permittee shall employ best available control measures on all frit material feeding, crushing and bagging operations for the purpose of ensuring compliance with the above-mentioned applicable requirements. In accordance with the permittee's permit application, the permittee has committed to the use of a baghouse for particulate emission control.

c) Operational Restrictions

(1) The pressure drop across the baghouse shall be maintained within the range of 1.0 to 8.0 inches of water while the emissions unit is in operation.

[Authority for term: OAC rules 3745-77-07(A)(1) and 3745-31-05(A)(3) and PTI#13-04177 and 40 CFR Part 64]

(2) The maximum annual operating hours for this emissions unit shall not exceed 7,234 hrs, based upon a rolling, 12-month summation of the operating hours.

[Authority for term: OAC rules 3745-77-07(A)(1) and 3745-31-05(A)(3) and PTI#13-04177]

(3) The maximum average hourly amount of frit processed in this emissions unit shall not exceed 2,600 lbs/hour.

[Authority for term: OAC rules 3745-77-07(C)(1) and 3745-31-05(A)(3) and PTI#13-04177]

d) Monitoring and/or Recordkeeping Requirements

(1) The permittee shall properly operate and maintain equipment to monitor the pressure drop across the baghouse while the emissions unit is in operation. The monitoring equipment shall be calibrated, operated, and maintained in accordance with the manufacturer's recommendations, instructions, and operating manual(s). The permittee shall record the pressure drop across the baghouse once per day.
[Authority for term: OAC rules 3745-77-07(C)(1) and 3745-31-05(A)(3) and PTI#13-04177 and 40 CFR Part 64]

(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.

[Authority for term: OAC rules 3745-77-07(C)(1) and 3745-31-05(A)(3) and PTI#13-04177]

(3) The permittee shall maintain daily records of the number of hours the emissions unit operated and the amount of frit (in pounds) processed in this emissions unit.

[Authority for term: OAC rules 3745-77-07(C)(1) and 3745-31-05(A)(3) and PTI#13-04177]

(4) The permittee shall maintain daily records of the average hourly production rate (in pounds/hour) of frit processed in this emissions unit.

[Authority for term: OAC rules 3745-77-07(C)(1) and 3745-31-05(A)(3) and PTI#13-04177]

(5) The permittee shall maintain monthly records of the following information:

a. the operating hours for each month; and

b. the rolling, 12-month summation of the operating hours.

[Authority for term: OAC rules 3745-77-07(C)(1) and 3745-31-05(A)(3) and PTI#13-04177]

(6) The CAM plan for this emissions unit has been developed for particulate emissions. The CAM performance indicator for particulate emissions is the pressure drop range for the baghouse.

The CAM performance indicator range as measured by the baghouse pressure drop is specified in c)(1). When the pressure drop is outside of the indicator range specified in c)(1), corrective action (including, but not limited to, an evaluation of the emissions unit and the control device) will be required.

Upon detecting an excursion of any of the particulate emission indicator ranges listed above, the owner or operator shall restore operation of the emissions unit (including the control devices) to its normal or usual manner of operation as expeditiously as practicable in accordance with good air pollution control practices for minimizing emissions. The response shall include minimizing the period of any startup, shutdown or malfunction and taking any necessary corrective actions to restore normal operation and prevent the likely recurrence of the cause of an excursion. Such actions may include initial inspection and evaluation, recording that operations returned to normal without operator action (such as thorough response by the computerized distribution control system), or any necessary follow-up actions to return operation to within the indicator range.

If a determination is made by the Administrator or Ohio EPA that the permittee has not used acceptable procedures in response to an excursion or exceedance based on the results of a determination made under 40 CFR Part 64.7(d)(2), the permittee may be required to develop a Quality Improvement Plan (QIP) consistent with the requirements of 40 CFR Part 64.8.

[Authority for term: OAC rule 3745-77-07(C)(1) and 40 CFR Part 64]

e) Reporting Requirements

(1) The permittee shall submit quarterly pressure drop deviation (excursion) reports to the Cleveland DAQ that identify all periods of time during which the pressure drop across the baghouse did not comply with the allowable range specified above.

[Authority for term: OAC rules 3745-77-07(C)(1) and 3745-31-05(A)(3) and PTI#13-04177 and 40 CFR Part 64]

(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.
[Authority for term: OAC rules 3745-77-07(C)(1) and 3745-31-05(A)(3) and PTI#13-04177]

(3) The permittee shall submit deviation (excursion) reports to the Cleveland DAQ which identify all exceedances of the rolling, 12-month operating hours limitation. Each report shall be submitted within 30 days after the deviation occurs.

[Authority for term: OAC rules 3745-77-07(C)(1) and 3745-31-05(A)(3) and PTI#13-04177]

(4) The permittee shall submit quarterly deviation (excursion) reports to the Cleveland DAQ that identify each instance when the emissions unit exceeded the average hourly production rate restriction of 2,600 lbs/hour of frit.

[Authority for term: OAC rules 3745-77-07(C)(1) and 3745-31-05(A)(3) and PTI#13-04177]

(5) If the results of monitoring or record keeping data indicate that the particulate emission limitations may have been exceeded, the permittee shall submit the results of that data, and document any corrective action taken to restore operation of the emissions unit, or its control equipment to its normal or usual manner of operation as expeditiously as practicable in accordance with good air pollution control practices for minimizing emissions. The reports shall be submitted in accordance with the Standard Term and Conditions of this permit.

[Authority for term: OAC rule 3745-77-07(C)(1), 40 CFR Part 64]

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 20% 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 and the procedures specified in OAC rule 3745-17-03(B)(1).

[Authority for term: OAC rules 3745-77-07(C)(1), 3745-17-07(A), 3745-17-03(B)(1), 3745-31-05(A)(3) and PTI#13-04177]

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

[Authority for term: OAC rules 3745-77-07(C)(1), 3745-17-07(B), 3745-17-03(B)(3), 3745-31-05(A)(3) and PTI#13-04177]

c. Emission Limitation:
Particulate emissions shall not exceed 0.01 grain/dry standard cubic feet of exhaust gases

Applicable Compliance Method:
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.

[Authority for term: OAC rules 3745-77-07(C)(1) and 3745-31-05(A)(3) and PTI#13-04177]

d. Emission Limitation:
Particulate emissions shall not exceed 1.08 TPY.

Applicable Compliance Method:
Compliance shall be based on the recordkeeping requirement in section d)(3) of this permit. The actual annual operating hours are multiplied by the short term particulate emission rate (0.01 gr/dscf), the baghouse rated exhaust flow rate of 3,500 dscf/min, the factor of 60 min/hr, the factor of 1.0 ton/2,000 lbs and dividing by 7,000 grains/lb.

[Authority for term: OAC rules 3745-77-07(C)(1) and 3745-31-05(A)(3) and PTI#13-04177]

g) Miscellaneous Requirements

(1) None.

20. P929, SM#24FF

Operations, Property and/or Equipment Description:

feeding, crushing and bagging operations for smelter #24 (production capacity 2,800 lbs/hr max) equipped with a baghouse

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 3745-17-07(A)	Visible particulate emissions from any stack shall not exceed 20% opacity as a 6-minute average, except as provided by the rule.
b.	OAC rule 3745-17-07(B)	Visible emissions of fugitive dust shall not exceed 20% opacity as a 3-minute average.
c.	OAC rule 3745-17-08(B)	See b)(2)a. below.
d.	OAC rule 3745-17-11(B)(1)	Particulate emissions shall not exceed 5.13 lbs/hr.
e.	40 CFR Part 64 Compliance Assurance Monitoring (CAM)	See c)(1), d)(1), d)(3), e)(1) and e)(3) below.

(2) Additional Terms and Conditions

a. The permittee shall minimize or eliminate visible emissions of fugitive 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 1.0 to 8.0 inches of water while the emissions unit is in operation.

[Authority for term: OAC rule 3745-77-07(A)(1) and 40 CFR Part 64]

d) Monitoring and/or Recordkeeping Requirements

(1) The permittee shall properly operate and maintain equipment to monitor the pressure drop across the baghouse while the emissions unit is in operation. The monitoring equipment shall be calibrated, operated, and maintained in accordance with the manufacturer's recommendations, instructions, and operating manual(s). The permittee shall record the pressure drop across the baghouse once per day.

[Authority for term: OAC rule 3745-77-07(C)(1) and 40 CFR Part 64]

(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.
[Authority for term: OAC rule 3745-77-07(C)(1)]

(3) The CAM plan for this emissions unit has been developed for particulate emissions. The CAM performance indicator for particulate emissions is the pressure drop range for the baghouse.

The CAM performance indicator range as measured by the baghouse pressure drop is specified in c)(1). When the pressure drop is outside of the indicator range specified in c)(1), corrective action (including, but not limited to, an evaluation of the emissions unit and the control device) will be required.

Upon detecting an excursion of any of the particulate emission indicator ranges listed above, the owner or operator shall restore operation of the emissions unit (including the control devices) to its normal or usual manner of operation as expeditiously as practicable in accordance with good air pollution control practices for minimizing emissions. The response shall include minimizing the period of any startup, shutdown or malfunction and taking any necessary corrective actions to restore normal operation and prevent the likely recurrence of the cause of an excursion. Such actions may include initial inspection and evaluation, recording that operations returned to normal without operator action (such as thorough response by the computerized distribution control system), or any necessary follow-up actions to return operation to within the indicator range.

If a determination is made by the Administrator or Ohio EPA that the permittee has not used acceptable procedures in response to an excursion or exceedance based on the results of a determination made under 40 CFR Part 64.7(d)(2), the permittee may be required to develop a Quality Improvement Plan (QIP) consistent with the requirements of 40 CFR Part 64.8.

[Authority for term: OAC rule 3745-77-07(C)(1) and 40 CFR Part 64]

e) Reporting Requirements

(1) The permittee shall submit quarterly pressure drop deviation (excursion) reports to the Cleveland DAQ that identify all periods of time during which the pressure drop across the baghouse did not comply with the allowable range specified above.

[Authority for term: OAC rule 3745-77-07(C)(1) and 40 CFR Part 64]

(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.

[Authority for term: OAC rule 3745-77-07(C)(1)]

(3) If the results of monitoring or record keeping data indicate that the particulate emission limitations may have been exceeded, the permittee shall submit the results of that data, and document any corrective action taken to restore operation of the emissions unit, or

its control equipment to its normal or usual manner of operation as expeditiously as practicable in accordance with good air pollution control practices for minimizing emissions. The reports shall be submitted in accordance with the Standard Term and Conditions of this permit.

[Authority for term: OAC rule 3745-77-07(C)(1) and 40 CFR Part 64]

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 20% 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 and the procedures specified in OAC rule 3745-17-03(B)(1).

[Authority for term: OAC rules 3745-77-07(C)(1) and 3745-17-07(A)]

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

[Authority for term: OAC rules 3745-77-07(C)(1) and 3745-17-07(B)]

c. Emission Limitation:
Particulate emissions shall not exceed 5.13 lbs/hr.

Applicable Compliance Method:
Compliance may be determined by multiplying an assumed PE grain loading emission factor of 0.03 gr/dscf from the baghouse oulet* by the baghouse rated exhaust flow rate of 3,500 dscf/min, multiplying by 60 min/hr and dividing by 7,000 grains/lb.

*The grain loading emission factor is based upon the baghouse manufacturer's design filtering efficiency.

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.

[Authority for term: OAC rules 3745-77-07(C)(1) and 3745-17-11(B)]

g) Miscellaneous Requirements

(1) None.

21. Emissions Unit Group -1,800 lb/hr smelter mat handling: P917,P927,

EU ID	Operations, Property and/or Equipment Description
P917	a) feeding, crushing and bagging operations for smelter #3 (production capacity 1,800 lbs/hr max) equipped with a baghouse
P927	feeding, crushing and bagging operations for smelter #22 (production capacity 2,800 lbs/hr max) equipped with a baghouse

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 3745-17-07(A)	Visible particulate emissions from any stack shall not exceed 20% opacity as a 6-minute average, except as provided by the rule.
b.	OAC rule 3745-17-07(B)	Visible emissions of fugitive dust shall not exceed 20% opacity as a 3-minute average.
c.	OAC rule 3745-17-08(B)	See b)(2)a. below.
d.	OAC rule 3745-17-11(B)(1)	Particulate emissions shall not exceed 3.82 lbs/hr.
e.	40 CFR Part 64 Compliance Assurance Monitoring (CAM)	See c)(1), d)(1), d)(3), e)(1) and e)(3) below.

(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 1.0 to 8.0 inches of water while the emissions unit is in operation.

[Authority for term: OAC rule 3745-77-07(A)(1) and 40 CFR Part 64]

d) Monitoring and/or Recordkeeping Requirements

(1) The permittee shall properly operate and maintain equipment to monitor the pressure drop across the baghouse while the emissions unit is in operation. The monitoring equipment shall be calibrated, operated, and maintained in accordance with the manufacturer's recommendations, instructions, and operating manual(s). The permittee shall record the pressure drop across the baghouse once per day.

[Authority for term: OAC rule 3745-77-07(C)(1) and 40 CFR Part 64]

(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 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 eliminate the visible emissions.

[Authority for term: OAC rule 3745-77-07(C)(1)]

(3) The CAM plan for this emissions unit has been developed for particulate emissions. The CAM performance indicator for particulate emissions is the pressure drop range for the baghouse.

The CAM performance indicator range as measured by the baghouse pressure drop is specified in c)(1). When the pressure drop is outside of the indicator range specified in

c)(1), corrective action (including, but not limited to, an evaluation of the emissions unit and the control device) will be required.

Upon detecting an excursion of any of the particulate emission indicator ranges listed above, the owner or operator shall restore operation of the emissions unit (including the control devices) to its normal or usual manner of operation as expeditiously as practicable in accordance with good air pollution control practices for minimizing emissions. The response shall include minimizing the period of any startup, shutdown or malfunction and taking any necessary corrective actions to restore normal operation and prevent the likely recurrence of the cause of an excursion. Such actions may include initial inspection and evaluation, recording that operations returned to normal without operator action (such as thorough response by the computerized distribution control system), or any necessary follow-up actions to return operation to within the indicator range.

If a determination is made by the Administrator or Ohio EPA that the permittee has not used acceptable procedures in response to an excursion or exceedance based on the results of a determination made under 40 CFR Part 64.7(d)(2), the permittee may be required to develop a Quality Improvement Plan (QIP) consistent with the requirements of 40 CFR Part 64.8.

[Authority for term: OAC rule 3745-77-07(C)(1) and 40 CFR Part 64]

e) Reporting Requirements

(1) The permittee shall submit quarterly pressure drop deviation (excursion) reports to the Cleveland DAQ that identify all periods of time during which the pressure drop across the baghouse did not comply with the allowable range specified above.

[Authority for term: OAC rule 3745-77-07(C)(1) and 40 CFR Part 64]

(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.

[Authority for term: OAC rule 3745-77-07(C)(1)]

(3) If the results of monitoring or record keeping data indicate that the particulate emission limitations may have been exceeded, the permittee shall submit the results of that data, and document any corrective action taken to restore operation of the emissions unit, or its control equipment to its normal or usual manner of operation as expeditiously as practicable in accordance with good air pollution control practices for minimizing emissions. The reports shall be submitted in accordance with the Standard Term and Conditions of this permit.

[Authority for term: OAC rule 3745-77-07(C)(1) and 40 CFR Part 64]

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 20% 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 and the procedures specified in OAC rule 3745-17-03(B)(1).

[Authority for term: OAC rules 3745-77-07(C)(1) and 3745-17-07(A)]

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

[Authority for term: OAC rules 3745-77-07(C)(1) and 3745-17-07(B)]

c. Emission Limitation:
Particulate emissions shall not exceed 3.82 lbs/hr.

Applicable Compliance Method:
Compliance may be determined by multiplying an assumed PE grain loading emission factor of 0.03 gr/dscf from the baghouse oulet* by the baghouse rated exhaust flow rate of 3,500 dscf/min, multiplying by 60 min/hr and dividing by 7,000 grains/lb.

*The grain loading emission factor is based upon the baghouse manufacturer's design filtering efficiency.

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.

[Authority for term: OAC rules 3745-77-07(C)(1) and 3745-17-11(B)(1)]

g) Miscellaneous Requirements

(1) None.

22. Emissions Unit Group -150 lb electric melters: P061,P063,

EU ID	Operations, Property and/or Equipment Description
P061	150 lbs/hr electric glass melter equipped with a baghouse
P063	150 lbs/hr electric glass melter equipped with a baghouse

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) Permit # P0116701 issued on 5/20/2014	Particulate emissions shall not exceed 0.06 lb/hr and 0.26 ton/yr. The requirements of this rule also include compliance with the requirements of OAC rule 3745-17-07(A). See c)(2) below.
b.	OAC rule 3745-17-07(A)	Visible particulate emissions from any stack shall not exceed 20% opacity as a 6-minute average, except as provided by the rule.
c.	OAC rule 3745-17-11(B)(1)	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. None.

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.

[Authority for term: OAC rules 3745-77-07(A)(1) and 3745-31-05(A)(3) and Permit # P0116701]

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

[Authority for term: OAC rules 3745-77-07(A)(1) and 3745-31-05(A)(3) and Permit # P0116701]

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 weekly 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.

[Authority for term: OAC rules 3745-77-07(C)(1) and 3745-31-05(A)(3) and Permit # P0116701]

(2) The permittee shall record and maintain records on the quantity and content of all constituents of the glass mix for each batch melted for this emissions unit.

[Authority for term: OAC rules 3745-77-07(C)(1) and 3745-31-05(A)(3) and Permit # P0116701]

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.

[Authority for term: OAC rules 3745-77-07(C)(1) and 3745-31-05(A)(3) and Permit # P0116701]

(2) The permittee shall submit deviation (excursion) reports to the Cleveland DAQ that identify all periods of time during which this emissions unit was used for leaded glass melting. These reports shall be submitted within 30 days after the deviation occurs.

[Authority for term: OAC rules 3745-77-07(C)(1) and 3745-31-05(A)(3) and Permit # P0116701]

(3) The quarterly deviation reports shall be submitted in accordance with the Standard Terms and Conditions of this permit.

[Authority for term: OAC rules 3745-77-07(C)(1) and 3745-31-05(A)(3) and Permit # P0116701]

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:
Particulate emissions shall not exceed 0.06 lb/hr.

Applicable Compliance Method:
Compliance with the hourly emission limitation may be determined through the use of the following equation:

PE = CL * SF * DC * E where

PE = particulate emissions (lbs/hr)
CL = cycle load in lbs/cycle (150 lbs product/hr)
SF = factor of safety (1.04)
DC = dust collector efficiency (1 - 0.99)
E = particulate emissions (PE) from all stages of the melting process (0.04 lb PE/lb product). E was established based on the emission factors and transfer efficiencies for the various stages of the melting process submitted in Permit to Install application #13-3509, dated December 1, 1998.

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.

[Authority for term: OAC rules 3745-77-07(C)(1) and 3745-31-05(A)(3) and Permit # P0116701]

b. Emission Limitation:
Particulate emissions shall not exceed 0.26 ton/yr.

Applicable Compliance Method:
Compliance with the annual limitation shall be assumed as long as compliance with the hourly limitation is maintained (the annual limitation was calculated by multiplying the hourly limitation by 8,760, and then dividing by 2,000).

[Authority for term: OAC rules 3745-77-07(C)(1) and 3745-31-05(A)(3) and Permit # P0116701]

c. Emission Limitation:
Visible particulate emissions from any stack shall not exceed 20% 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 and the procedures specified in OAC rule 3745-17-03(B)(1).

[Authority for term: OAC rules 3745-77-07(C)(1), 3745-17-07(A), 3745-17-03(B)(1), 3745-31-05(A)(3) and Permit # P0116701]

g) Miscellaneous Requirements

(1) Deviations in the pressure drop across the baghouse is not necessarily indicative of an emission violation, but rather serves as a trigger level for additional testing and/or further investigation to establish compliance with the emission limitations.

[Authority for term: OAC rules 3745-77-07(C)(1) and 3745-31-05(A)(3) and Permit # P0116701]

23. Emissions Unit Group -2,800 lb/hr frit smelters: P913,P914,

EU ID	Operations, Property and/or Equipment Description
P913	continuous frit smelter #22 (production capacity: 2,800 lbs/hr max.) equipped with four venturi scrubbers which operate independently and in parallel
P914	continuous frit smelter #24 (production capacity: 2,800 lbs/hr max.) equipped with four venturi scrubbers which operate independently and in parallel

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 3745-17-07(A)	Visible particulate emissions from any stack shall not exceed 20% opacity as a 6-minute average, except as provided by the rule.
b.	OAC rule 3745-17-11(B)(1)	Particulate emissions shall not exceed 5.13 lbs/hr.

(2) Additional Terms and Conditions

a. None.

c) Operational Restrictions

(1) The permittee shall only burn natural gas in this emissions unit.

[Authority for term: OAC rule 3745-77-07(A)(1)]

(2) The pH of the scrubber liquor in each scrubber shall be maintained within the range of 6 and 10.

[Authority for term: OAC rule 3745-77-07(A)(1)]

(3) The pressure drop across each scrubber shall be continuously maintained at a value of not less than 30 inches of water at all times while the emissions unit is in operation.

[Authority for term: OAC rule 3745-77-07(A)(1)]

d) Monitoring and/or Recordkeeping Requirements

(1) The permittee shall properly operate and maintain equipment to continuously monitor and record the pH of the scrubber liquor and the pressure drop across each scrubber 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.

[Authority for term: OAC rule 3745-77-07(C)(1)]

(2) The permittee shall collect and record the following information each day for each scrubber:

a. the pH of the scrubber liquor;

b. the pressure drop across the scrubber, in inches of water; and

c. the downtime for the capture (collection) system, control device, and monitoring equipment, when the associated emissions unit was in operation.

[Authority for term: OAC rule 3745-77-07(C)(1)]

(3) For each day during which the permittee burns a fuel other than natural gas, the permittee shall maintain a record of the type and quantity of fuel burned in this emissions unit.

[Authority for term: OAC rule 3745-77-07(C)(1)]

(4) The permittee shall maintain records of production run times and the amount of frit processed in this emissions unit.

[Authority for term: OAC rule 3745-77-07(C)(1)]

e) Reporting Requirements

(1) The permittee shall submit quarterly deviation (excursion) reports to the 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 pressure drop across the scrubber; and

b. the pH of the scrubber liquor.

[Authority for term: OAC rule 3745-77-07(C)(1)]

(2) The permittee shall submit deviation (excursion) reports to the Cleveland DAQ that identify each day when a fuel other than natural gas was burned in this emissions unit. Each report shall be submitted within 30 days after the deviation occurs.

[Authority for term: OAC rule 3745-77-07(C)(1)]

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 20% 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 and the procedures specified in OAC rule 3745-17-03 (B)(1).

[Authority for term: OAC rules 3745-77-07(C)(1) and 3745-17-07(A)]

b. Emission Limitation:
Particulate emissions shall not exceed 5.13 lbs/hr.

Applicable Compliance Method:
Compliance shall be based upon the results of the emission testing specified in f)(2).

[Authority for term: OAC rules 3745-77-07(C)(1) and 3745-17-11(B)(1)]

(2) The permittee shall conduct, or have conducted, emission testing for this emissions unit in accordance with the following requirements:

The emission testing shall be conducted within 6 months prior to permit expiration.

The emission testing shall be conducted to demonstrate compliance with the particulate emission limitation and opacity.

The following test method shall be employed to demonstrate compliance with the particulate emission limitation and opacity: Methods 1-5 and Method 9 of 40 CFR Part 60, Appendix A. Alternative U.S. EPA approved test methods may be used with prior approval from the Ohio EPA.

The test(s) shall be conducted while at least 5 of the following emissions units (P032, P906, P909, P910, P911, P912, P913, P914, and P925) are vented to three of the venturi scrubbers. The emissions units shall be operated at or near their maximum capacities, unless otherwise specified or approved by the Cleveland DAQ.

The test(s) shall be conducted simultaneously at the exhaust stacks of the venturi scrubbers that are in operation during the compliance demonstration. The total particulate emission rate shall be the sum of the emission rates from each of the scrubbers in operation during the compliance demonstration. The total particulate emissions from all operating scrubbers will be divided equally to each operating smelter.

Not later than 30 days prior to the proposed test date(s), the permittee shall submit an "Intent to Test" notification to the Cleveland DAQ. The "Intent to Test" notification shall describe in detail the proposed test methods and procedures, the emissions unit operating parameters, the time(s) and date(s) of the test(s), and the person(s) who will be conducting the test(s). Failure to submit such notification for review and approval prior to the test(s) may result in the Cleveland DAQ's refusal to accept the results of the emission test(s).

Personnel from the Cleveland DAQ shall be permitted to witness the test(s), examine the testing equipment, and acquire data and information necessary to ensure that the operation of the emissions unit and the testing procedures provide a valid characterization of the emissions from the emissions unit and/or the performance of the control equipment.

A comprehensive written report on the results of the emission test(s) shall be signed by the person or persons responsible for the tests and submitted to the Cleveland DAQ within 30 days following completion of the test(s). The permittee may request additional time for the submittal of the written report, where warranted, with prior approval from the Cleveland DAQ.

[Authority for term: OAC rule 3745-77-07(C)(1)]

g) Miscellaneous Requirements

(1) None.

24. Emissions Unit Group -220 lb electric melters: P064,P065,P066,P067,P068,P069,

EU ID	Operations, Property and/or Equipment Description
P064	220 lbs product/cycle electric glass melter (Large Melter 1) equipped with a baghouse and HEPA filter
P065	220 lbs product/cycle electric glass melter (Large Melter 2) equipped with a baghouse and HEPA filter
P066	220 ls product/cycle electric glass melter (Large Melter 3) equipped with a baghouse and HEPA filter
P067	220 lbs product/cycle electric glass melter (Large Melter 5) equipped with a baghouse and HEPA filter
P068	220 lbs product/hr electric glass melter (Melter 9) equipped with a baghouse and HEPA filter
P069	220 lbs product/cycle electric glass melter (Small Melter 10) equipped with a baghouse and HEPA filter

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) Permit # P0116701 issued on 5/20/2014	Particulate emissions shall not exceed 0.01 lb/hr and 0.05 ton/yr. Lead emissions: Combined limitation of 0.30 ton/yr. See b)(2)a. below. The requirements of this rule also include compliance with the requirements of OAC rule 3745-17-07(A).
b.	OAC rule 3745-17-07(A)	Visible particulate emissions from any stack shall not exceed 20% opacity as a 6-minute average, except as provided by the rule.

	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
c.	OAC rule 3745-17-11(B)(1)	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 total lead emissions from emissions units P064 - P069 shall not exceed 0.30 ton/yr.

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.

[Authority for term: OAC rules 3745-77-07(A)(1) and 3745-31-05(A)(3) and Permit # P0116701]

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

[Authority for term: OAC rules 3745-77-07(A)(1) and 3745-31-05(A)(3) and Permit # P0116701]

(3) The permittee shall operate the baghouse for this emissions unit in accordance with the Preventative Maintenance Plan (PMP) submitted on February 22, 2012 to the Cleveland Division of Air Quality (Cleveland DAQ). The PMP shall serve as an operational restriction for the baghouse. Any future revisions to the PMP must be approved by the Cleveland DAQ.

[Authority for term: OAC rules 3745-77-07(A)(1) and 3745-31-05(A)(3) and Permit # P0116701]

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 weekly 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.

[Authority for term: OAC rules 3745-77-07(C)(1) and 3745-31-05(A)(3) and Permit # P0116701]

(2) The permittee shall record and maintain records on the quantity and content of all constituents of the glass mix for each batch melted for this emissions unit.

[Authority for term: OAC rules 3745-77-07(C)(1) and 3745-31-05(A)(3) and Permit # P0116701]

(3) The permittee shall 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.

[Authority for term: OAC rules 3745-77-07(C)(1) and 3745-31-05(A)(3) and Permit # P0116701]

(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.

[Authority for term: OAC rules 3745-77-07(C)(1) and 3745-31-05(A)(3) and Permit # P0116701]

(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 melting operations.

[Authority for term: OAC rules 3745-77-07(C)(1) and 3745-31-05(A)(3) and Permit # P0116701]

(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.

[Authority for term: OAC rules 3745-77-07(C)(1) and 3745-31-05(A)(3) and Permit # P0116701]

(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.

[Authority for term: OAC rules 3745-77-07(C)(1), 3745-31-05(A)(3) and Permit # P0116701 and 40 CFR Part 64]

(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.

[Authority for term: OAC rules 3745-77-07(C)(1), 3745-31-05(A)(3) and Permit # P0116701 and 40 CFR Part 64]

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.

[Authority for term: OAC rules 3745-77-07(C)(1) and 3745-31-05(A)(3) and Permit # P0116701]

(2) The permittee shall submit annual reports to the Cleveland DAQ that specify the total particulate and lead emissions from this emissions unit. These reports shall be submitted by April 15 of each year in accordance with the fee emission reporting requirement, and cover the previous calendar year.

[Authority for term: OAC rules 3745-77-07(C)(1) and 3745-31-05(A)(3) and Permit # P0116701]

(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.

[Authority for term: OAC rules 3745-77-07(C)(1) and 3745-31-05(A)(3) and Permit # P0116701]

(4) The quarterly deviation reports shall be submitted in accordance with the Standard Terms and Conditions of this permit.

[Authority for term: OAC rules 3745-77-07(C)(1) and 3745-31-05(A)(3) and Permit # P0116701]

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 Limitations:
Particulate emissions shall not exceed 0.01 lb/hr and 0.05 ton/yr.

Applicable Compliance Methods:
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 the hourly emission limitation through emission testing performed in accordance with Methods 1-5 of 40 CFR Part 60, Appendix A.

Compliance with the tons per year limitation shall be assumed as long as compliance is maintained with the lbs PE/hr limitation (the annual limitation was

calculated by multiplying the hourly limitation by 8,760 hrs/year, and then dividing by 2,000 lbs/ton).

[Authority for term: OAC rules 3745-77-07(C)(1) and 3745-31-05(A)(3) and Permit # P0116701]

b. Emission Limitation:
Combined lead emission limitation of 0.30 ton/yr for emissions units P064-P069.

Applicable Compliance Method:
Compliance with the lead emission limitation shall be demonstrated provided the permittee remains in compliance with the particulate emission limitations for emissions units P064 through P069.

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.

[Authority for term: OAC rules 3745-77-07(C)(1) and 3745-31-05(A)(3) and Permit # P0116701]

c. Emission Limitation:
Visible particulate emissions from any stack shall not exceed 20% 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 and the procedures specified in OAC rule 3745-17-03(B)(1).

[Authority for term: OAC rules 3745-77-07(C)(1), 3745-17-07(A), 3745-31-05(A)(3), 3745-17-03(B)(1) and Permit # P0116701]

g) Miscellaneous Requirements

(1) Deviations in the pressure drop across the baghouse is not necessarily indicative of an emission violation, but rather serves as a trigger level for additional testing and/or further investigation to establish compliance with the emission limitations.

[Authority for term: OAC rules 3745-77-07(C)(1) and 3745-31-05(A)(3) and Permit # P0116701]

25. Emissions Unit Group -3,000 lb/hr frit smelters: P032,P925,

EU ID	Operations, Property and/or Equipment Description
P032	continuous frit smelter #4 (production capacity: 3,000 lbs/hr max.) equipped with 4 venturi scrubbers which operate independently and in parallel
P925	continuous frit smelter #12 (production capacity: 3,000 lbs/hr max.) equipped with 4 venturi scrubbers which operate independently and in parallel

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) (PTI#13-2079 issued March 7, 1990)	Particulate emissions shall not exceed 0.88 lb per ton of frit fired The requirements of this rule also include compliance with the requirements of OAC rule 3745-17-07(A).
b.	OAC rule 3745-17-07(A)	Visible particulate emissions from any stack shall not exceed 20% opacity as a 6-minute average, except as provided by the rule.
c.	OAC rule 3745-17-11(B)(1)	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. None.

c) Operational Restrictions

(1) The permittee shall only burn natural gas in this emissions unit.

[Authority for term: OAC rule 3745-77-07(A)(1)]

(2) The pH of the scrubber liquor in each scrubber shall be maintained within the range of 6 and 10.

[Authority for term: OAC rule 3745-77-07(A)(1)]

(3) The pressure drop across each scrubber shall be continuously maintained at a value of not less than 30 inches of water at all times while the emissions unit is in operation.

[Authority for term: OAC rule 3745-77-07(A)(1)]

d) Monitoring and/or Recordkeeping Requirements

(1) The permittee shall properly operate and maintain equipment to continuously monitor and record the pH of the scrubber liquor and the pressure drop across each scrubber 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.

[Authority for term: OAC rule 3745-77-07(C)(1)]

(2) The permittee shall collect and record the following information each day for each scrubber:

a. the pH of the scrubber liquor;

b. the pressure drop across the scrubber, in inches of water; and

c. the downtime for the capture (collection) system, control device, and monitoring equipment, when the associated emissions unit was in operation.

[Authority for term: OAC rule 3745-77-07(C)(1)]

(3) For each day during which the permittee burns a fuel other than natural gas, the permittee shall maintain a record of the type and quantity of fuel burned in this emissions unit.

[Authority for term: OAC rule 3745-77-07(C)(1)]

(4) The permittee shall maintain records of production run times and the amount of frit processed in this emissions unit.

[Authority for term: OAC rule 3745-77-07(C)(1)]

e) Reporting Requirements

(1) The permittee shall submit quarterly deviation (excursion) reports to the 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 pressure drop across the scrubber; and

b. the pH of the scrubber liquor.

[Authority for term: OAC rule 3745-77-07(C)(1)]

(2) The permittee shall submit deviation (excursion) reports to the Cleveland DAQ that identify each day when a fuel other than natural gas was burned in this emissions unit. Each report shall be submitted within 30 days after the deviation occurs.

[Authority for term: OAC rule 3745-77-07(C)(1)]

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 20% 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 and the procedures specified in OAC rule 3745-17-03 (B)(1).

[Authority for term: OAC rules 3745-77-07(C)(1), 3745-17-07(A), 3745-31-05(A)(3) and PTI#13-02079]

b. Emission Limitation:
Particulate emissions shall not exceed 0.88 lb per ton of frit fired

Applicable Compliance Method:
Compliance shall be based upon the results of the emission testing specified in f)(2).

[Authority for term: OAC rules 3745-77-07(C)(1) and 3745-31-05(A)(3) and PTI#13-02079]

(2) The permittee shall conduct, or have conducted, emission testing for this emissions unit in accordance with the following requirements:

The emission testing shall be conducted within 6 months prior to permit expiration.

The emission testing shall be conducted to demonstrate compliance with the particulate emission limitation and opacity.

The following test method shall be employed to demonstrate compliance with the particulate emission limitation and opacity: Methods 1-5 and Method 9 of 40 CFR Part 60, Appendix A. Alternative U.S. EPA approved test methods may be used with prior approval from the Ohio EPA.

The test(s) shall be conducted while at least 5 of the following emissions units (P032, P906, P909, P910, P911, P912, P913, P914, and P925) are vented to three of the venturi scrubbers. The emissions units shall be operated at or near their maximum capacities, unless otherwise specified or approved by the Cleveland DAQ.

The test(s) shall be conducted simultaneously at the exhaust stacks of the venturi scrubbers that are in operation during the compliance demonstration. The total particulate emission rate shall be the sum of the emission rates from each of the scrubbers in operation during the compliance demonstration. The total particulate emissions from all operating scrubbers will be divided equally to each operating smelter.

Not later than 30 days prior to the proposed test date(s), the permittee shall submit an "Intent to Test" notification to the Cleveland DAQ. The "Intent to Test" notification shall describe in detail the proposed test methods and procedures, the emissions unit operating parameters, the time(s) and date(s) of the test(s), and the person(s) who will be conducting the test(s). Failure to submit such notification for review and approval prior to the test(s) may result in the Cleveland DAQ's refusal to accept the results of the emission test(s).

Personnel from the Cleveland DAQ shall be permitted to witness the test(s), examine the testing equipment, and acquire data and information necessary to ensure that the operation of the emissions unit and the testing procedures provide a valid characterization of the emissions from the emissions unit and/or the performance of the control equipment.

A comprehensive written report on the results of the emission test(s) shall be signed by the person or persons responsible for the tests and submitted to the Cleveland DAQ within 30 days following completion of the test(s). The permittee may request additional time for the submittal of the written report, where warranted, with prior approval from the Cleveland DAQ.

[Authority for term: OAC rule 3745-77-07(C)(1)]

g) Miscellaneous Requirements

(1) None.

26. Emissions Unit Group -3,000 lb/hr smelter mat handling: P918,P926,

EU ID	Operations, Property and/or Equipment Description
P918	feeding, crushing and bagging operations for smelter #4 (production capacity 3,000 lbs/hr max) equipped with a baghouse
P926	feeding, crushing and bagging operations for smelter #12 (production capacity 3,000 lbs/hr max) equipped with a baghouse

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)(PTI#13-2079 issued March 7, 1990)	Particulate emissions shall not exceed 0.01 grain/dry standard cubic feet The requirements of this rule also include compliance with the requirements of OAC rules 3745-17-07(A), 3745-17-07(B), and 3745-17-08(B).
b.	OAC rule 3745-17-07(A)(1)	Visible particulate emissions from any stack shall not exceed 20% opacity as a 6-minute average, except as provided by the rule.
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)(1)	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).
f.	40 CFR Part 64 Compliance Assurance Monitoring (CAM)	See c)(1), d)(1), d)(3), e)(1) and e)(3) below.

(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 1.0 to 8.0 inches of water while the emissions unit is in operation.

[Authority for term: OAC rule 3745-77-07(A)(1) and 40 CFR Part 64]

d) Monitoring and/or Recordkeeping Requirements

(1) The permittee shall properly operate and maintain equipment to monitor the pressure drop across the baghouse while the emissions unit is in operation. The monitoring equipment shall be calibrated, operated, and maintained in accordance with the manufacturer's recommendations, instructions, and operating manual(s). The permittee shall record the pressure drop across the baghouse once per day.

[Authority for term: OAC rule 3745-77-07(C)(1) and 40 CFR Part 64]

(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.

[Authority for term: OAC rule 3745-77-07(C)(1)]

(3) The CAM plan for this emissions unit has been developed for particulate emissions. The CAM performance indicator for particulate emissions is the pressure drop range for the baghouse.

The CAM performance indicator range as measured by the baghouse pressure drop is specified in c)(1). When the pressure drop is outside of the indicator range specified in c)(1), corrective action (including, but not limited to, an evaluation of the emissions unit and the control device) will be required.

Upon detecting an excursion of any of the particulate emission indicator ranges listed above, the owner or operator shall restore operation of the emissions unit (including the control devices) to its normal or usual manner of operation as expeditiously as practicable in accordance with good air pollution control practices for minimizing emissions. The response shall include minimizing the period of any startup, shutdown or malfunction and taking any necessary corrective actions to restore normal operation and prevent the likely recurrence of the cause of an excursion. Such actions may include initial inspection and evaluation, recording that operations returned to normal without operator action (such as thorough response by the computerized distribution control system), or any necessary follow-up actions to return operation to within the indicator range.

If a determination is made by the Administrator or Ohio EPA that the permittee has not used acceptable procedures in response to an excursion or exceedance based on the results of a determination made under 40 CFR Part 64.7(d)(2), the permittee may be required to develop a Quality Improvement Plan (QIP) consistent with the requirements of 40 CFR Part 64.8.

[Authority for term: OAC rule 3745-77-07(C)(1) and 40 CFR Part 64]

e) Reporting Requirements

(1) The permittee shall submit quarterly pressure drop deviation (excursion) reports to the Cleveland DAQ that identify all periods of time during which the pressure drop across the baghouse did not comply with the allowable range specified above.

[Authority for term: OAC rule 3745-77-07(C)(1) and 40 CFR Part 64]

(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.

[Authority for term: OAC rule 3745-77-07(C)(1)]

(3) If the results of monitoring or record keeping data indicate that the particulate emission limitations may have been exceeded, the permittee shall submit the results of that data, and document any corrective action taken to restore operation of the emissions unit, or its control equipment to its normal or usual manner of operation as expeditiously as practicable in accordance with good air pollution control practices for minimizing emissions. The reports shall be submitted in accordance with the Standard Term and Conditions of this permit.

[Authority for term: OAC rule 3745-77-07(C)(1) and 40 CFR Part 64]

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 emissions of fugitive dust shall not exceed 20% opacity as a 3-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 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.

[Authority for term: OAC rules 3745-77-07(C)(1), 3745-17-07(B), 3745-17-03(B)(3), 3745-31-05(A)(3) and PTI#13-02079]

b. Emission Limitation:
Particulate emissions shall not exceed 0.01 grain/dry standard cubic feet

Applicable Compliance Method:
Compliance shall be determined through the emission testing requirement in f)(2).

[Authority for term: OAC rules 3745-77-07(C)(1) and 3745-31-05(A)(3) and PTI#13-02079]

c. Emission Limitation:
Visible particulate emissions from any stack shall not exceed 20% 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 and the procedures specified in OAC rule 3745-17-03(B)(1).

[Authority for term: OAC rules 3745-77-07(C)(1), 3745-17-07(A), 3745-17-03(B)(1), 3745-31-05(A)(3) and PTI#13-02079]

(2) The permittee shall conduct, or have conducted, emission testing for this emissions unit in accordance with the following requirements:

The emission testing shall be conducted within 6 months prior to permit expiration.

The emission testing shall be conducted to demonstrate compliance with the particulate emission limitation and opacity.

The following test method shall be employed to demonstrate compliance with the particulate emission limitation and opacity: Methods 1-5 and Method 9 of 40 CFR Part 60, Appendix A. Alternative U.S. EPA approved test methods may be used with prior approval from the Ohio EPA.

The test(s) shall be conducted while the emissions unit is operating at or near its maximum capacity, unless otherwise specified or approved by the Cleveland DAQ.

Not later than 30 days prior to the proposed test date(s), the permittee shall submit an "Intent to Test" notification to the Cleveland DAQ. The "Intent to Test" notification shall describe in detail the proposed test methods and procedures, the emissions unit operating parameters, the time(s) and date(s) of the test(s), and the person(s) who will be conducting the test(s). Failure to submit such notification for review and approval

prior to the test(s) may result in the Cleveland DAQ's refusal to accept the results of the emission test(s).

Personnel from the Cleveland DAQ shall be permitted to witness the test(s), examine the testing equipment, and acquire data and information necessary to ensure that the operation of the emissions unit and the testing procedures provide a valid characterization of the emissions from the emissions unit and/or the performance of the control equipment.

A comprehensive written report on the results of the emission test(s) shall be signed by the person or persons responsible for the tests and submitted to the Cleveland DAQ within 30 days following completion of the test(s). The permittee may request additional time for the submittal of the written report, where warranted, with prior approval from the Cleveland DAQ.

[Authority for term: OAC rule 3745-77-07(C)(1)]

g) Miscellaneous Requirements

(1) None.