

PUBLIC NOTICE

GrafTech Advanced Graphite Materials LLC has applied to the Tennessee Air Pollution Control Division (TAPCD) for renewal of a major source operating permit subject to the provisions of paragraph 1200-03-09-.02(11) of the Tennessee Air Pollution Control Regulations (also frequently referred to as Title V regulations). A major source (Title V) operating permit is required by both the Federal Clean Air Act and the Tennessee Air Pollution Control Regulations.

The applicant is GrafTech Advanced Graphite Materials LLC with a site address of 22 Carbon Drive, Lawrenceburg, Tennessee. They seek to obtain a renewal of their Title V major source operating permit for their facility which manufactures Carbon Bricks, Carbon Cement and Paste, Graphite Flour and Products, and Metal Ceramic Thermowells. The permit involves various existing operations and equipment associated with Carbon Bricks, Carbon Cement and Paste, Graphite Flour and Products, and Metal Ceramic Thermowells manufacturing.

EPA has agreed to treat this draft Part 70 permit renewal as a proposed Part 70 permit renewal and to perform its 45-day review provided by the law concurrently with the public notice period. If any substantive comments are received, EPA's 45-day review period will cease to be performed concurrently with the public notice period. EPA's 45-day review period will start once the public notice period has been completed and EPA receives notification from the Tennessee Air Pollution Control Division that comments have been received and resolved. Whether EPA's 45-day review period is performed concurrently with the public comment period or after the public comment period has ended, the deadline for citizen's petitions to the EPA Administrator will be determined as if EPA's 45-day review period is performed after the public comment period has ended (i.e., sequentially).

The status regarding EPA's 45-day review of this project and the deadline for submitting a citizen's petition can be found at the following website address:

<http://www.epa.gov/caa-permitting/tennessee-proposed-title-v-permits>

A copy of the application materials used by the TAPCD and a copy of the draft permit are available for public inspection during normal business hours at the following locations:

Lawrence County Public Library
519 East Gaines Street
Lawrenceburg, TN 38464
Teresa Newton, Director

and

Tennessee Department of Environment and Conservation
Division of Air Pollution Control
William R. Snodgrass Tennessee Tower
312 Rosa L. Parks Avenue, 15th Floor
Nashville, Tennessee 37243

Also, if you require a copy of the draft permit it is available electronically by accessing the TDEC internet site located at:

<http://www.tn.gov/environment/topic/ppo-air>

Interested parties are invited to review these materials and comment. In addition, a public hearing may be requested at which written or oral presentations may be made. To be considered, written comments or requests for a public hearing must be made within thirty (30) days of the date of this notice and should be addressed to **Michelle Owenby, Director, Air Pollution Control Division, William R. Snodgrass Tennessee Tower, 312 Rosa L. Parks Avenue, 15th Floor, Nashville, Tennessee 37243.**

Questions concerning the source(s) may be addressed to Mr. Jerry Swinea at the same address or by calling 1-(615)-532-0554 or (615) 532-0639. A final determination will be made after weighing all relevant comments.

Individuals with disabilities who wish to participate in these proceedings (or to review these filings) should contact the Tennessee Department of Environment and Conservation to discuss any auxiliary aids or services needed to facilitate such participation. Such contact may be in person, by writing, telephone, or other means, and should be made no less than ten days prior to the end of the thirty (30) day public comment period to allow time to provide such aid or service. Contact the Tennessee Department of Environment and Conservation ADA Coordinator, William R. Snodgrass Tennessee Tower, 312 Rosa L. Parks Avenue, 2nd Floor, Nashville, Tennessee 37243, 1 (866) 253-5827. Hearing impaired callers may use the Tennessee Relay Service, 1 (800) 848-0298.

(Do Not Publish Text Below The Dotted Line.)

For the "*Democrat-Union*" - publish once during the time period of October 26- thru November 1, 2016

Air Pollution Control

Date: October 25, 2016

Assigned to – Jerry Swinea

No alterations to the above are allowed:

GrafTech Advanced Graphite Materials LLC must pay to place this advertisement in the newspaper.

Air Pollution Control must be furnished with an affidavit from the newspaper stating that the ad was run and the date of the ad or one complete sheet from the newspaper showing this advertisement, the name of the newspaper and the date of publication. Mail to Jerry Swinea Air Pollution Control Division, William R. Snodgrass Tennessee Tower, 312 Rosa L. Parks Avenue, 15th Floor, Nashville, Tennessee 37243.

TITLE V PERMIT STATEMENT

RENEWAL OF TITLE V PERMIT

Facility Name: GrafTech Advanced Graphite Materials LLC.

City: Lawrenceburg

County: Lawrence

Date Application Received: July 02, 2015

Date Application Deemed Complete: July 02, 2015

Emission Source Reference No: 50-0003

Permit No.: 570505

INTRODUCTION

This narrative is being provided to assist the reader in understanding the content of the attached Title V Operating Permit which is being renewed for this facility. This Title V Permit Statement is written pursuant to Tennessee Air Pollution Control Rule 1200-03-09-.02(11)(f)1.(v). The primary purpose of the Title V Operating Permit is to consolidate and identify existing state and federal air requirements applicable to *GrafTech Advanced Graphite Materials LLC.* and to provide practical methods for assuring compliance with these requirements. The following narrative is designed to accompany the Title V Operating Permit renewal. It initially describes the facility receiving the permit, then the applicable requirements and their significance, and finally the compliance status with those applicable requirements. This narrative is intended only as an adjunct for the reviewer and has no legal standing. Any revisions made to the permit in response to comments received during the public participation process will be described in an addendum to this narrative.

Acronyms

PSD - Prevention of Significant Deterioration
NESHAP - National Emission Standards for Hazardous Air Pollutants
NSPS - New Source Performance Standards
MACT - Maximum Achievable Control Technology
NSR - New Source Review

I. Identification Information

A. Source Description

GrafTech International Holdings Inc. is a manufacturer of Carbon Bricks, Carbon Cement and Paste, Graphite Flour and Products, and Metal Ceramic Thermowells.

- 01: Carbon Brick Manufacturing and Paste Mixing Operation
- 02: Material Crushing, Sizing, and Bulk Storage
- 03: Brick Plant Airveyor
- 04: Brick Plant Vac-U-Max System
- 06: Graphitizing Process
- 07: Carbon Cement Blending and Packing
- 15: Graphite Milling
- 16: Unmilled Graphite Airveyor
- 34: ZT Process
- 35: Brick Plant Pitch Airveyor
- 47: Graphite Rigid Insulation Process
- 48: Graphite Machining Process
- 49: Carbon Brick Manufacturing Press 7

B. Facility Classification

1. Attainment or Non-Attainment Area Location

Area *is* designated as an attainment area for all criteria pollutants.

2. Company *is* located in a *Class II* area.

C. Regulatory Status

1. PSD/NSR

This facility *is* a major source under PSD.

2. Title V Major Source Status by Pollutant

Pollutant	Is the pollutant emitted?	If emitted, what is the facility's status?	
		Major Source Status	Non-Major Source Status
PM	Yes	X	
PM ₁₀	Yes	X	
SO ₂	Yes	X	
VOC	Yes	---	X
NO _x	Yes	---	X
CO	Yes	---	X
Individual HAP	Yes	X	
Total HAPs	Yes	X	

3. MACT Standards

This facility *is* a major source for HAPs, but **is not** subject to a MACT standard.

4. Program Applicability

Are the following programs applicable to the facility?

PSD (*no*)

NESHAP (*no*)

NSPS (*no*)

II. Compliance Information

A. Compliance Status

Is the facility currently in compliance with all applicable requirements? *yes*

Are there any applicable requirements that will become effective during the permit term? *no*

III. Other Requirements

A. Emissions Trading

The facility **is not** involved in an emission trading program.

B. Acid Rain Requirements

This facility **is not** subject to any requirements in Title IV of the Clean Air Act.

C. Prevention of Accidental Releases

Not Applicable

IV. Public Participation Procedures

Notification of this draft permit was sent to the following environmental agencies:

1. EPA - Region IV
2. State of Alabama

V Permitting Activities Since Original permit Issuance (Previous Permit 563249)

ADMINISTRATIVE AMENDMENT # 1 TO TITLE V PERMIT 563249

The company has requested an administrative amendment to modify Condition E3-1 and the source description for 50-0003-06.

Concerning Condition E3-1

As an alternative to updating the Title V permit each time an insignificant activity or emission unit is added, the company has requested that they be allowed to maintain the current list, along with supporting calculations, onsite. The company will continue to submit written notification to the Division, as required by TAPCR 1200-03-09-.04(4)(a), which will include supporting calculations, an updated APC V.2 Form, and Truth, Accuracy, and Completeness Statement signed by a responsible official.

Concerning Source Description for 50-0003-06

The company is adding pickup points for the dust collection system controlled by DC-26 to some of the pieces of equipment associated with the Metal Ceramics Process. These pieces of equipment are considered to be insignificant and the company has requested to include this information in the source description for emission source 50-0003-06.



OPERATING PERMIT (TITLE V) Issued Pursuant to Tennessee Air Quality Act

This permit fulfills the requirements of Title V of the Federal Clean Air Act (42 U.S.C. 7661a-7661e) and the federal regulations promulgated thereunder at 40 CFR Part 70. (FR Vol. 57, No. 140, Tuesday, July 21, 1992 p.32295-32312). This permit is issued in accordance with the provisions of paragraph 1200-03-09-.02(11) of the Tennessee Air Pollution Control Regulations. The permittee has been granted permission to operate an air contaminant source in accordance with emission limitations, monitoring requirements set forth herein.

Date Issued: December XX, 2016

Permit Number: 570505

Date Expires: December XX, 2021

Issued To:

GrafTech Advanced Graphite Materials LLC.

Installation Address:

22 Carbon Drive
Lawrenceburg, TN

Installation Description:

Manufacture of Carbon Bricks, Carbon Cement and Paste, Graphite Flour and Products, and Metal Ceramic Thermowells:

- | | |
|---|--|
| 01: Carbon Brick Manufacturing and Paste Mixing Operation | 16: Unmilled Graphite Airveyor |
| 02: Material Crushing, Sizing, and Bulk Storage | 34: ZT Process |
| 03: Brick Plant Airveyor | 35: Brick Plant Pitch Airveyor |
| 04: Brick Plant Vac-U-Max System | 47: Graphite Rigid Insulation Process |
| 06: Graphitizing Process | 48: Graphite Machining Process |
| 07: Carbon Cement Blending and Packing | 49: Carbon Brick Manufacturing Press 7 |
| 15: Graphite Milling | |

Emission Source Reference No.: 50-0003

Renewal Application Due Date: TBD and TBD

Primary SIC: 3624

Information Relied Upon:

Renewal Applications:

Renewal Application dated June 29, 2015
Administrative Amendment Application dated September 2, 2016
Administrative Amendment Application dated October 22, 2012
Responsible Official change request dated July 7, 2016
(continued on the next page)

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TECHNICAL SECRETARY

No Authority is Granted by this Permit to Operate, Construct, or Maintain any Installation in Violation of any Law, Statute, Code, Ordinance, Rule, or Regulation of the State of Tennessee or any of its Political Subdivisions.

POST AT INSTALLATION ADDRESS

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SECTION A

GENERAL PERMIT CONDITIONS

A permit issued under the provisions of paragraph 1200-03-09-.02(11) is a permit issued pursuant to the requirements of Title V of the Federal Act and its implementing Federal regulations promulgated at 40 CFR, Part 70.

- A1. Definitions.** Terms not otherwise defined in the permit shall have the meaning assigned to such terms in the referenced regulation.

TAPCR 1200-03

- A2. Compliance requirement.** All terms and conditions in a permit issued pursuant to paragraph 1200-03-09-.02(11) including any provisions designed to limit a source's potential to emit, are enforceable by the Administrator and citizens under the Federal Act. The permittee shall comply with all conditions of its permit. Except for requirements specifically designated herein as not being federally enforceable (State Only), non-compliance with the permit requirements is a violation of the Federal Act and the Tennessee Air Quality Act and is grounds for enforcement action; for a permit termination, revocation and reissuance, or modification; or for denial of a permit renewal application. Non-compliance with permit conditions specifically designated herein as not being federally enforceable (State Only) is a violation of the Tennessee Air Quality Act and may be grounds for these actions.

TAPCR 1200-03-09-.02(11)(e)2(i) and 1200-03-09-.02(11)(e)1(vi)(I)

- A3. Need to halt or reduce activity.** The need to halt or reduce activity is not a defense for noncompliance. It shall not be a defense for a 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 conditions of the permit. However, nothing in this item shall be construed as precluding consideration of a need to halt or reduce activity as a mitigating factor in assessing penalties for noncompliance if the health, safety or environmental impacts of halting or reducing operations would be more serious than the impacts of continuing operations.

TAPCR 1200-03-09-.02(11)(e)1(vi)(II)

- A4. The permit.** The permit may be modified, revoked, reopened, and reissued, or terminated for cause. The filing of a request by the permittee for a permit modification, revocation and reissuance, or termination, or of a notification of planned changes or anticipated noncompliance does not stay any permit condition.

TAPCR 1200-03-09-.02(11)(e)1(vi)(III)

- A5. Property rights.** The permit does not convey any property rights of any sort, or any exclusive privilege.

TAPCR 1200-03-09-.02(11)(e)1(vi)(IV)

- A6. Submittal of requested information.** The permittee shall furnish to the Technical Secretary, within a reasonable time, any information that the Technical Secretary may request in writing to determine whether cause exists for modifying, revoking and reissuing, or termination of the permit or to determine compliance with the permit. Upon request, the permittee shall also furnish to the Technical Secretary copies of records required to be kept by the permit. If the permittee claims that such information is confidential, the Technical Secretary may review that claim and hold the information in protected status until such time that the Board can hear any contested proceedings regarding confidentiality disputes. If the information is desired by EPA, the permittee may mail the information directly to EPA. Any claims of confidentiality for federal purposes will be determined by EPA.

TAPCR 1200-03-09-.02(11)(e)1(vi)(V)

- A7. Severability clause.** The requirements of this permit are severable. A dispute regarding one or more requirements of this permit does not invalidate or otherwise excuse the permittee from their duty to comply with the remaining portion of the permit.

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TAPCR 1200-03-09.02(11)(e)1(v)

A8. Fee payment.

(a) The permittee shall pay an annual major source emission fee based upon the responsible official's choice of actual emissions or allowable emissions. An emission cap of 4,000 tons per year per regulated pollutant per major source SIC Code shall apply to actual or allowable based emission fees. A major source annual emission fee will not be charged for emissions in excess of the cap (s) or for carbon monoxide.

(b) Major sources who have filed a timely, complete operating permit application in accordance with 1200-03-09-.02(11), shall pay allowable emission based fees until the beginning of the next annual accounting period following receipt of their major source operating permit. At that time, the permittee shall begin paying their annual emission fee based upon their choice of actual or allowable based fees, or mixed actual and allowable based fees as stated under SECTION E of this permit. Once permitted, altering the existing choice shall be accomplished by a written request of the major source, filed in the office of the Technical Secretary at least one hundred eighty days prior to the expiration or reissuance of the major source operating permit.

(c) Major sources must conform to the following requirements with respect to fee payments:

1. If a major source choosing an allowable based annual emission fee wishes to restructure its allowable emissions for the purposes of lowering its annual emission fees, a mutually agreed upon, more restrictive regulatory requirement may be established to minimize the allowable emissions and thus the annual emission fee. The more restrictive requirement must be specified on the permit, and must include the method used to determine compliance with the limitation. The documentation procedure to be followed by the major source must also be included to insure that the limit is not exceeded. Restructuring the allowable emissions is permissible only in the annual accounting periods of eligibility and only, if the written request for restructuring is filed with the Technical Secretary at least 120 days prior to the beginning of the annual accounting period of eligibility. These periods of eligibility occur upon expiration of the initial major source operating permit, renewal of an expired major source operating permit or reissuance of a major source operating permit.

2. Beginning with the annual accounting period beginning July 1, 2004 to June 30, 2005, major sources paying on allowable based emission fees will be billed by the Division no later than April 1 prior to the end of the accounting period. The major source annual emission fee is due July 1 following the end of the accounting period.

3. Beginning with the annual accounting period beginning July 1, 2004 to June 30, 2005, major sources choosing an actual based annual emission fee shall file an actual emissions analysis with the Technical Secretary which summarizes the actual emissions of all regulated pollutants at the air contaminant sources of their facility. Based upon the actual emissions analysis, the source shall calculate the fee due and submit the payment and the analysis each July 1st following the end of the annual accounting period.

4. Beginning with the annual accounting period beginning July 1, 2004 to June 30, 2005, major sources choosing a mixture of allowable and actual based emission fees shall file an actual emissions and allowable emissions analysis with the Technical Secretary which summarizes the actual and allowable emissions of all regulated pollutants at the air contaminant sources of their facility. Based upon the analysis, the source shall calculate the fee due and submit the payment and the analysis each July 1st following the end of the annual accounting period.

The mixed based fee shall be calculated utilizing the 4,000 ton cap specified in subparagraph 1200-03-26-.02(2)(i). In determining the tonnages to be applied toward the regulated pollutant 4,000 ton cap in a mixed based fee, the source shall first calculate the actual emission based fees for a regulated pollutant and apply that tonnage toward the regulated pollutant's cap. The remaining tonnage available in the 4,000 ton category of a regulated pollutant shall be subject to allowable emission based fee calculations for the sources that were not included in the actual emission based fee calculations. Once the 4,000 ton cap has been reached for a regulated pollutant, no additional fee shall be required.

5. Major sources choosing to pay their major source annual emission fee based on actual based emissions or a mixture of allowable and actual based emissions may request an extension of time to file their emissions analysis with the Technical Secretary. The extension may be granted by the Technical Secretary up to ninety (90) days. The request for extension must be postmarked no later than July 1 or the request for extension shall be denied. The request for extension to file must state the reason and give an adequate explanation.

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An estimated annual emission fee payment of no less than eighty percent (80%) of the fee due July 1 must accompany the request for extension to avoid penalties and interest on the underpayment of the annual emission fee. A remaining balance due must accompany the emission analysis. If there has been an overpayment, a refund may be requested in writing to the Division or be applied as a credit toward next year's major source annual emission fee. The request for extension of time is not available to major sources choosing to pay their major source annual emission fee based on allowable emissions.

6. Newly constructed major sources or minor existing sources modifying their operations such that they become a major source in the midst of the standard July 1st to June 30th annual accounting period, shall pay allowable based annual emission fees for the fractional remainder of the annual accounting period commencing upon their start-up. At the beginning of the next annual accounting period, the "responsible official" of the source may choose to pay annual emission fees based on actual or allowable emissions or a mixture of the two as provided for in this rule 1200-03-26-.02.

- (d) Where more than one (1) allowable emission limit is applicable to a regulated pollutant, the allowable emissions for the regulated pollutants shall not be double counted. Major sources subject to the provisions of paragraph 1200-03-26-.02(9) shall apportion their emissions as follows to ensure that their fees are not double counted.
1. Sources that are subject to federally promulgated hazardous air pollutant standards that can be imposed under Chapter 1200-03-11 or Chapter 1200-03-31 will place such regulated emissions in the specific hazardous air pollutant under regulation. If the pollutant is also in the family of volatile organic compounds or the family of particulates, the pollutant shall not be placed in that respective family category.
 2. A miscellaneous category of hazardous air pollutants shall be used for hazardous air pollutants listed at part 1200-03-26-.02(2)(i)12 that do not have an allowable emission standard. A pollutant placed in this category shall not be subject to being placed in any other category such as volatile organic compounds or particulates.
 3. Each individual hazardous air pollutant and the miscellaneous category of hazardous air pollutants is subject to the 4,000 ton cap provisions of subparagraph 1200-03-26-.02(2)(i).
 4. Major sources that wish to pay annual emission fees for PM₁₀ on an allowable emission basis may do so if they have a specific PM₁₀ allowable emission standard. If a major source has a total particulate emission standard, but wishes to pay annual emission fees on an actual PM₁₀ emission basis, it may do so if the PM₁₀ actual emission levels are proven to the satisfaction of the Technical Secretary. The method to demonstrate the actual PM₁₀ emission levels must be made as part of the source's major source operating permit in advance in order to exercise this option. The PM₁₀ emissions reported under these options shall not be subject to fees under the family of particulate emissions. The 4,000 ton cap provisions of subparagraph 1200-03-26-.02(2)(i) shall also apply to PM₁₀ emissions.

TAPCR 1200-03-26-.02 (3) and (9) and 1200-03-09-.02(11)(e)1(vii)

- A9. **Permit revision not required.** A permit revision will not be required under any approved economic incentives, marketable permits, emissions trading and other similar programs or process for changes that are provided for in the permit.

TAPCR 1200-03-09-.02(11)(e)1(viii)

- A10. **Inspection and entry.** Upon presentation of credentials and other documents as may be required by law, the permittee shall allow the Technical Secretary or his authorized representative to perform the following for the purposes of determining compliance with the permit applicable requirements:

- (a) Enter upon, at reasonable times, the permittee's premises where a source is located or emissions-related activity is conducted, or where records must be kept under the conditions of the permit;
- (b) Have access to and copy, at reasonable times, any records that must be kept under the conditions of the permit;
- (c) Inspect at reasonable times any facilities, equipment (including monitoring and air pollution control equipment), practices, or operations regulated or required under the permit; and
- (d) As authorized by the Clean Air Act and Chapter 1200-03-10 of TAPCR, sample or monitor at reasonable times substances or parameters for the purpose of assuring compliance with the permit or applicable requirements.
- (e) "Reasonable times" shall be considered to be customary business hours unless reasonable cause exists to suspect noncompliance with the Act, Division 1200-03 or any permit issued pursuant thereto and the Technical Secretary specifically authorizes an inspector to inspect a facility at any other time.

TAPCR 1200-03-09-.02(11)(e)3.(ii)

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A11. Permit shield.

- (a) Compliance with the conditions of this permit shall be deemed compliance with all applicable requirements as of the date of permit issuance, provided that:
1. Such applicable requirements are included and are specifically identified in the permit; or
 2. The Technical Secretary, in acting on the permit application or revision, determines in writing that other requirements specifically identified are not applicable to the source, and the permit includes the determination or a concise summary thereof.
- (b) Nothing in this permit shall alter or affect the following:
1. The provisions of section 303 of the Federal Act (emergency orders), including the authority of the Administrator under that section. Similarly, the provisions of T.C.A. §68-201-109 (emergency orders) including the authority of the Governor under the section;
 2. The liability of an owner or operator of a source for any violation of applicable requirements prior to or at the time of permit issuance;
 3. The applicable requirements of the acid rain program, consistent with section 408(a) of the Federal Act; or
 4. The ability of EPA to obtain information from a source pursuant to section 114 of the Federal Act.
- (c) Permit shield is granted to the permittee.

A12. Permit renewal and expiration.

- (a) An application for permit renewal must be submitted at least 180 days, but no more than 270 days prior to the expiration of this permit. Permit expiration terminates the source's right to operate unless a timely and complete renewal application has been submitted.
- (b) Provided that the permittee submits a timely and complete application for permit renewal the source will not be considered to be operating without a permit until the Technical Secretary takes final action on the permit application, except as otherwise noted in paragraph 1200-03-09-.02(11).
- (c) This permit, its shield provided in Condition A11, and its conditions will be extended and effective after its expiration date provided that the source has submitted a timely, complete renewal application to the Technical Secretary.

TAPCR 1200-03-09-.02(11)(f)3 and 2, 1200-03-09-.02(11)(d)1(i)(III), and 1200-03-09-.02(11)(a)2

A13. Reopening for cause.

- (a) A permit shall be reopened and revised prior to the expiration of the permit under any of the circumstances listed below:
1. Additional applicable requirements under the Federal Act become applicable to the sources contained in this permit provided the permit has a remaining term of 3 or more years. Such a reopening shall be completed not later than 18 months after promulgation of the applicable requirement. No such reopening is required if the effective date of the requirement is later than the permit expiration date of this permit, unless the original has been extended pursuant to 1200-03-09-.02(11)(a)2.
 2. Additional requirements become applicable to an affected source under the acid rain program.
 3. The Technical Secretary or EPA determines that the permit contains a material mistake or that inaccurate statements were made in establishing the emissions standards or other terms or conditions of the permit.
 4. The Technical Secretary or EPA determines that the permit must be revised or revoked to assure compliance with the applicable requirements.
- (b) Proceedings to reopen and issue a permit shall follow the same proceedings as apply to initial permit issuance and shall affect only those parts of the permit for which cause to reopen exists, and not the entire permit. Such reopening shall be made as expeditiously as practicable.
- (c) Reopenings for cause shall not be initiated before a notice of such intent is provided to the permittee by the Technical Secretary at least 30 days in advance of the date that the permit is to be reopened except that the Technical Secretary may provide a shorter time period in the case of an emergency. An emergency shall be established by the criteria of T.C.A. 68-201-109 or other compelling reasons that public welfare is being adversely affected by the operation of a source that is in compliance with its permit requirements.
- (d) If the Administrator finds that cause exists to terminate, modify, or revoke and reissue a permit as identified in A13, he is required under federal rules to notify the Technical Secretary and the permittee of such findings in writing. Upon

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receipt of such notification, the Technical Secretary shall investigate the matter in order to determine if he agrees or disagrees with the Administrator's findings. If he agrees with the Administrator's findings, the Technical Secretary shall conduct the reopening in the following manner:

1. The Technical Secretary shall, within 90 days after receipt of such notification, forward to EPA a proposed determination of termination, modification, or revocation and reissuance, as appropriate. If the Administrator grants additional time to secure permit applications or additional information from the permittee, the Technical Secretary shall have the additional time period added to the standard 90 day time period.
2. EPA will evaluate the Technical Secretary's proposed revisions and respond as to their evaluation.
3. If EPA agrees with the proposed revisions, the Technical Secretary shall proceed with the reopening in the same manner prescribed under Condition A13 (b) and Condition A13 (c).
4. If the Technical Secretary disagrees with either the findings or the Administrator that a permit should be reopened or an objection of the Administrator to a proposed revision to a permit submitted pursuant to Condition A13(d), he shall bring the matter to the Board at its next regularly scheduled meeting for instructions as to how he should proceed. The permittee shall be required to file a written brief expressing their position relative to the Administrator's objection and have a responsible official present at the meeting to answer questions for the Board. If the Board agrees that EPA is wrong in their demand for a permit revision, they shall instruct the Technical Secretary to conform to EPA's demand, but to issue the permit under protest preserving all rights available for litigation against EPA.

TAPCR 1200-03-09-.02(11)(f)6 and 7.

A14. Permit transference. An administrative permit amendment allows for a change of ownership or operational control of a source where the Technical Secretary determines that no other change in the permit is necessary, provided that the following requirements are met:

- (a) Transfer of ownership permit application is filed consistent with the provisions of 1200-03-09-.03(6), and
- (b) Written agreement containing a specific date for transfer of permit responsibility, coverage, and liability between the current and new permittee has been submitted to the Technical Secretary.

TAPCR 1200-03-09-.02(11)(f)4(i)(IV) and 1200-03-09-.03(6)

A15. Air pollution alert. When the Technical Secretary has declared that an air pollution alert, an air pollution warning, or an air pollution emergency exists, the permittee must follow the requirements for that episode level as outlined in TAPCR 1200-03-09-.03(1) and TAPCR 1200-03-15-.03.

A16. Construction permit required. Except as exempted in TAPCR 1200-03-09-.04, or excluded in subparagraph TAPCR 1200-03-02-.01(1)(aa) or subparagraph TAPCR 1200-03-02-.01(1)(cc), this facility shall not begin the construction of a new air contaminant source or the modification of an air contaminant source which may result in the discharge of air contaminants without first having applied for and received from the Technical Secretary a construction permit for the construction or modification of such air contaminant source.

TAPCR 1200-03-09-.01(1)(a)

A17. Notification of changes. The permittee shall notify the Technical Secretary 30 days prior to commencement of any of the following changes to an air contaminant source which would not be a modification requiring a construction permit.

- (a) change in air pollution control equipment
- (b) change in stack height or diameter
- (c) change in exit velocity of more than 25 percent or exit temperature of more than 15 percent based on absolute temperature.

TAPCR 1200-03-09-.02(7)

A18. Schedule of compliance. The permittee will comply with any applicable requirement that becomes effective during the permit term on a timely basis. If the permittee is not in compliance, the permittee must submit a schedule for coming into compliance, which must include a schedule of remedial measure(s), including an enforceable set of deadlines for specific actions.

TAPCR 1200-03-09-.02(11)(d)3 and 40 CFR Part 70.5(c)

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A19. Title VI.

- (a) The permittee shall comply with the standards for recycling and emissions reduction pursuant to 40 CFR, Part 82, Subpart F, except as provided for motor vehicle air conditioners (MVACs) in Subpart B:
1. Persons opening appliances for maintenance, service, repair, or disposal must comply with the required practices pursuant to Section 82.156.
 2. Equipment used during the maintenance, service, repair, or disposal of appliances must comply with the standards for recycling and recovery equipment pursuant to Section 82.158.
 3. Persons performing maintenance, service, repair, or disposal of appliances must be certified by an approved technician certification program pursuant to Section 82.161.
- (b) If the permittee performs a service on motor (fleet) vehicles when this service involves ozone depleting substance refrigerant in the motor vehicle air conditioner (MVAC), the permittee is subject to all the applicable requirements as specified in 40 CFR, Part 82, Subpart B, Servicing of Motor Vehicle Air Conditioners.
- (c) The permittee shall be allowed to switch from any ozone-depleting substance to any alternative that is listed in the Significant New Alternatives Program (SNAP) promulgated pursuant to 40 CFR, Part 82, Subpart G, Significant New Alternatives Policy Program.

- A20. 112 (r).** The permittee shall comply with the requirement to submit to the Administrator or designated State Agency a risk management plan, including a registration that reflects all covered processes, by June 21, 1999, if the permittee's facility is required pursuant to 40 CFR 68 to submit such a plan.

TAPCR 1200-03-32-.03(3)

SECTION B

GENERAL CONDITIONS for MONITORING, REPORTING, and ENFORCEMENT

- B1. Recordkeeping.** Monitoring and related record keeping shall be performed in accordance with the requirements specified in the permit conditions for each individual permit unit. In no case shall reports of any required monitoring and record keeping be submitted less frequently than every six months.
- (a) Where applicable, records of required monitoring information include the following:
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 analysis;
 4. The analytical techniques or methods used;
 5. The results of such analyses; and
 6. The operating conditions as existing at the time of sampling or measurement.
- (b) Digital data accumulation which utilizes valid data compression techniques shall be acceptable for compliance determination as long as such compression does not violate an applicable requirement and its use has been approved in advance by the Technical Secretary.

TAPCR 1200-03-09-.02(11)(e)1(iii)

- B2. Retention of monitoring data.** The permittee shall retain records of all required monitoring data and support information for a period of at least 5 years from the date of the monitoring sample, measurement, report, or application. Support information includes all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation, and copies of all reports required by the permit.

TAPCR 1200-03-09-.02(11)(e)1(iii)(II)II

- B3. Reporting.** Reports of any required monitoring and record keeping shall be submitted to the Technical Secretary in accordance with the frequencies specified in the permit conditions for each individual permit unit. Reporting periods will be dated from the end of the first complete calendar quarter following issuance of this permit unless otherwise noted. Reports shall be submitted within 60 days of the close of the reporting period unless otherwise noted. All instances of deviations

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from permit requirements must be clearly identified in such reports. All required reports must be certified by a responsible official. Reports required under "State only requirements" are not required to be certified by a responsible official.

TAPCR 1200-03-09-.02(11)(e)1(iii)

B4. Certification. Except for reports required under “State Only” requirements, any application form, report or compliance certification submitted pursuant to the requirements of this permit shall contain certification by a responsible official of truth, accuracy and completeness. This certification shall state that, based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate and complete.

TAPCR 1200-03-09-.02(11)(d)4

B5. Annual compliance certification. The permittee shall submit annually compliance certifications with terms and conditions contained in Sections A, B, D and E of this permit, including emission limitations, standards, or work practices. This compliance certification shall include all of the following (provided that the identification of applicable information may cross-reference the permit or previous reports, as applicable):

- (a) The identification of each term or condition of the permit that is the basis of the certification;
- (b) The identification of the method(s) or other means used by the owner or operator for determining the compliance status with each term and condition during the certification period; such methods and other means shall include, at a minimum, the methods and means required by this permit. If necessary, the owner or operator also shall identify any other material information that must be included in the certification to comply with section 113(c)(2) of the Federal Act, which prohibits knowingly making a false certification or omitting material information;
- (c) The status of compliance with the terms and conditions of the permit for the period covered by the certification, including whether compliance during the period was continuous or intermittent. The certification shall be based on the method or means designated in B5(b) above. The certification shall identify each deviation and take it into account in the compliance certification. The certification shall also identify as possible exceptions to compliance any periods during which compliance is required and in which an excursion* or exceedance** as defined below occurred; and
- (d) Such other facts as the Technical Secretary may require to determine the compliance status of the source.

* “Excursion” shall mean a departure from an indicator range established for monitoring under this paragraph, consistent with any averaging period specified for averaging the results of the monitoring.

** “Exceedance” shall mean a condition that is detected by monitoring that provides data in terms of an emission limitation or standard and that indicates that emissions (or opacity) are greater than the applicable emission limitation or standard (or less than the applicable standard in the case of a percent reduction requirement) consistent with any averaging period specified for averaging the results of the monitoring.

40 CFR Part 70.6(c)(5)(iii) as amended in the Federal Register Vol. 79, No.144, July 28, 2014, pages 43661 through 43667

B6. Submission of compliance certification. The compliance certification shall be submitted to:

The Tennessee Department of Environment and Conservation Environmental Field Office specified in Section E of this permit	and	Air and EPCRA Enforcement Branch US EPA Region IV 61 Forsyth Street, SW Atlanta, Georgia 30303
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TAPCR 1200-03-09-.02(11)(e)3(v)(IV)

B7. Emergency provisions. An emergency constitutes an affirmative defense to an enforcement action brought against this source for noncompliance with a technology based emission limitation due to unavoidable increases in emissions attributable to the emergency. An emergency shall not include noncompliance to the extent caused by improperly designed equipment, lack of preventative maintenance, careless or improper operation, or operator error.

- (a) The affirmative defense of the emergency shall be demonstrated through properly signed, contemporaneous operating logs, or other relevant evidence that:
 1. An emergency occurred and that the permittee can identify the probable cause(s) of the emergency. "Probable" must be supported by a credible investigation into the incident that seeks to identify the causes and results in an explanation supported by generally accepted engineering or scientific principles.
 2. The permitted source was at the time being properly operated. In determining whether or not a source was being properly operated, the Technical Secretary shall examine the source's written standard operating

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procedures which were in effect at the time of the noncompliance and any other code as detailed below that would be relevant to preventing the noncompliance. Adherence to the source's standard operating procedures will be the test of adequate preventative maintenance, careless operation, improper operation or operator error to the extent that such adherence would prevent noncompliance. The source's failure to follow recognized standards of practice to the extent that adherence to such a standard would have prevented noncompliance will disqualify the source from any claim of an emergency and an affirmative defense.

3. During the period of the emergency, the permittee took all reasonable steps to minimize levels of emissions that exceeded the emission standards, or other requirements in the permit.
 4. The permittee submitted notice of the emergency to the Technical Secretary according to the notification criteria for malfunctions in rule 1200-03-20-.03. For the purposes of this condition, "emergency" shall be substituted for "malfunction(s)" in rule 1200-03-20-.03 to determine the relevant notification threshold. The notice shall include a description of the emergency, any steps taken to mitigate emissions, and corrective actions taken.
- (b) In any enforcement proceeding, the permittee seeking to establish the occurrence of an emergency has the burden of proof.
- (c) The provisions of this condition are in addition to any emergency, malfunction or upset requirement contained in Division 1200-03 or other applicable requirement.

TAPCR 1200-03-09-.02(11)(e)7

B8. Excess emissions reporting.

- (a) The permittee shall promptly notify the Technical Secretary when any emission source, air pollution control equipment, or related facility breaks down in such a manner to cause the emission of air contaminants in excess of the applicable emission standards contained in Division 1200-03 or any permit issued thereto, or of sufficient duration to cause damage to property or public health. The permittee must provide the Technical Secretary with a statement giving all pertinent facts, including the estimated duration of the breakdown. Violations of the visible emission standard which occur for less than 20 minutes in one day (midnight to midnight) need not be reported. Prompt notification will be within 24 hours of the malfunction and shall be provided by telephone to the Division's Nashville office. The Technical Secretary shall be notified when the condition causing the failure or breakdown has been corrected. In attainment and unclassified areas if emissions other than from sources designated as significantly impacting on a nonattainment area in excess of the standards will not and do not occur over more than a 24-hour period (or will not recur over more than a 24-hour period) and no damage to property and or public health is anticipated, notification is not required.
- (b) Any malfunction that creates an imminent hazard to health must be reported by telephone immediately to the Division's Nashville office and to the State Civil Defense.
- (c) A log of all malfunctions, startups, and shutdowns resulting in emissions in excess of the standards in Division 1200-03 or any permit issued thereto must be kept at the plant. All information shall be entered in the log no later than twenty-four (24) hours after the startup or shutdown is complete, or the malfunction has ceased or has been corrected. Any later discovered corrections can be added in the log as footnotes with the reason given for the change. This log must record at least the following:
1. Stack or emission point involved
 2. Time malfunction, startup, or shutdown began and/or when first noticed
 3. Type of malfunction and/or reason for shutdown
 4. Time startup or shutdown was complete or time the air contaminant source returned to normal operation.
 5. The company employee making entry on the log must sign, date, and indicate the time of each log entry. The information under items 1. and 2. must be entered into the log by the end of the shift during which the malfunction or startup began. For any source utilizing continuous emission(s) monitoring, continuous emission(s) monitoring collection satisfies the above log keeping requirement.

TAPCR 1200-03-20-.03 and .04

- B9. Malfunctions, startups and shutdowns - reasonable measures required.** The permittee must take all reasonable measures to keep emissions to a minimum during startups, shutdowns, and malfunctions. These measures may include installation and use of alternate control systems, changes in operating methods or procedures, cessation of operation until the

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process equipment and/or air pollution control equipment is repaired, maintaining sufficient spare parts, use of overtime labor, use of outside consultants and contractors, and other appropriate means. Failures that are caused by poor maintenance, careless operation or any other preventable upset condition or preventable equipment breakdown shall not be considered malfunctions. This provision does not apply to standards found in 40 CFR, Parts 60 (Standards of performance for new stationary sources), 61 (National emission standards for hazardous air pollutants) and 63 (National emission standards for hazardous air pollutants for source categories).

TAPCR 1200-03-20-.02

B10. [RESERVED].

B11. **Report required upon the issuance of a notice of violation for excess emissions.** The permittee must submit within twenty (20) days after receipt of the notice of violation, the data shown below to assist the Technical Secretary in deciding whether to excuse or validate the violation. If this data has previously been available to the Technical Secretary prior to the issuance of the notice of violation no further action is required of the violating source. However, if the source desires to submit additional information, then this must be submitted within the same twenty (20) day time period. The minimum data requirements are:

- (a) The identity of the stack and/or other emission point where the excess emission(s) occurred;
- (b) The magnitude of the excess emissions expressed in pounds per hour and the units of the applicable emission limitation and the operating data and calculations used in determining the magnitude of the excess emissions;
- (c) The time and duration of the emissions;
- (d) The nature and cause of such emissions;
- (e) For malfunctions, the steps taken to correct the situation and the action taken or planned to prevent the recurrence of such malfunctions;
- (f) The steps taken to limit the excess emissions during the occurrence reported, and
- (g) If applicable, documentation that the air pollution control equipment, process equipment, or processes were at all times maintained and operated in a manner consistent with good operating practices for minimizing emissions.

Failure to submit the required report within the twenty (20) day period specified shall preclude the admissibility of the data for consideration of excusal for malfunctions.

TAPCR 1200-03-20-.06(2), (3) and (4)

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SECTION C

PERMIT CHANGES

- C1. Operational flexibility changes.** The source may make operational flexibility changes that are not addressed or prohibited by the permit without a permit revision subject to the following requirements:
- (a) The change cannot be subject to a requirement of Title IV of the Federal Act or Chapter 1200-03-30.
 - (b) The change cannot be a modification under any provision of Title I of the federal Act or Division 1200-03.
 - (c) Each change shall meet all applicable requirements and shall not violate any existing permit term or condition.
 - (d) The source must provide contemporaneous written notice to the Technical Secretary and EPA of each such change, except for changes that are below the threshold of levels that are specified in Rule 1200-03-09-.04.
 - (e) Each change shall be described in the notice including the date, any change in emissions, pollutants emitted, and any applicable requirements that would apply as a result of the change.
 - (f) The change shall not qualify for a permit shield under the provisions of part 1200-03-09-.02(11)(e)6.
 - (g) The permittee shall keep a record describing the 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. The records shall be retained until the changes are incorporated into subsequently issued permits.

TAPCR 1200-03-09-.02(11)(a)4 (ii)

- C2. Section 502(b)(10) changes.**
- (a) The permittee can make certain changes without requiring a permit revision, if the changes are not modifications under Title I of the Federal Act or Division 1200-03 and the changes do not exceed the emissions allowable under the permit. The permittee must, however, provide the Administrator and Technical Secretary with written notification within a minimum of 7 days in advance of the proposed changes. The Technical Secretary may waive the 7 day advance notice in instances where the source demonstrates in writing that an emergency necessitates the change. Emergency shall be demonstrated by the criteria of TAPCR 1200-03-09-.02(11)(e)7 and in no way shall it include changes solely to take advantages of an unforeseen business opportunity. The Technical Secretary and EPA shall attach each such notice to their copy of the relevant permit.
 - (b) The written notification must be signed by the facility Title V Responsible Official and include the following:
 1. a brief description of the change within the permitted facility;
 2. specifies the date on which the change will occur;
 3. declares and quantifies where possible any change in emissions;
 4. declares any permit term or condition that is no longer applicable as a result of the change; and
 5. declares the requested change is not a Title I modification and will not exceed allowable emissions under the permit.
 - (c) The permit shield provisions of TAPCR 1200-03-09-.02(11)(e)6 shall not apply to Section 502(b)(10) changes.

TAPCR 1200-03-09-.02(11)(a)4(i)

- C3. Administrative amendment.**
- (a) Administrative permit amendments to this permit shall be in accordance with 1200-03-09-.02(11)(f)4. The source may implement the changes addressed in the request for an administrative amendment immediately upon submittal of the request.
 - (b) The permit shield shall be extended as part of an administrative permit amendment revision consistent with the provisions of TAPCR 1200-03-09-.02(11)(e)6 for such revisions made pursuant to item (c) of this condition which meet the relevant requirements of TAPCR 1200-03-09-.02(11)(e), TAPCR 1200-03-09-.02(11)(f) and TAPCR 1200-03-09-.02(11)(g) for significant permit modifications.
 - (c) Proceedings to review and grant administrative permit amendments shall be limited to only those parts of the permit for which cause to amend exists, and not the entire permit.

TAPCR 1200-03-09-.02(11)(f)4

- C4. Minor permit modifications.**

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- (a) The permittee may submit an application for a minor permit modification in accordance with TAPCR 1200-03-09-.02(11)(f)5(ii).
- (b) The permittee may make the change proposed in its minor permit modification immediately after an application is filed with the Technical Secretary.
- (c) Proceedings to review and modify permits shall be limited to only those parts of the permit for which cause to modify exists, and not the entire permit.
- (d) Minor permit modifications do not qualify for a permit shield.

TAPCR 1200-03-09-.02(11)(f)5(ii)

C5. Significant permit modifications.

- (a) The permittee may submit an application for a significant modification in accordance with TAPCR 1200-03-09-.02(11)(f)5(iv).
- (b) Proceedings to review and modify permits shall be limited to only those parts of the permit for which cause to modify exists, and not the entire permit.

TAPCR 1200-03-09-.02(11)(f)5(iv)

C6. New construction or modifications.

Future construction at this source that is subject to the provisions of TAPCR 1200-03-09-.01 shall be governed by the following:

- (a) The permittee shall designate in their construction permit application the route that they desire to follow for the purposes of incorporating the newly constructed or modified sources into their existing operating permit. The Technical Secretary shall use that information to prepare the operating permit application submittal deadlines in their construction permit.
- (b) Sources desiring the permit shield shall choose the administrative amendment route of TAPCR 1200-03-09-.02(11)(f)4 or the significant modification route of TAPCR 1200-03-09-.02(11)(f)5(iv).
- (c) Sources desiring expediency instead of the permit shield shall choose the minor permit modification procedure route of TAPCR 1200-03-09-.02(11)(f)5(ii) or group processing of minor modifications under the provisions of TAPCR 1200-03-09-.02(11)(f)5(iii) as applicable to the magnitude of their construction.

TAPCR 1200-03-09-.02(11)(d) 1(i)(V)

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SECTION D

GENERAL APPLICABLE REQUIREMENTS

D1. Visible emissions. With the exception of air emission sources exempt from the requirements of TAPCR Chapter 1200-03-05 and air emission sources for which a different opacity standard is specifically provided elsewhere in this permit, the permittee shall not cause, suffer, allow or permit discharge of a visible emission from any air contaminant source with an opacity in excess of twenty (20) percent for an aggregate of more than five (5) minutes in any one (1) hour or more than twenty (20) minutes in any twenty-four (24) hour period; provided, however, that for fuel burning installations with fuel burning equipment of input capacity greater than 600 million btu per hour, the permittee shall not cause, suffer, allow, or permit discharge of a visible emission from any fuel burning installation with an opacity in excess of twenty (20) percent (6-minute average) except for one six minute period per one (1) hour of not more than forty (40) percent opacity. Sources constructed or modified after July 7, 1992 shall utilize 6-minute averaging. Consistent with the requirements of TAPCR Chapter 1200-03-20, due allowance may be made for visible emissions in excess of that permitted under TAPCR 1200-03-05 which are necessary or unavoidable due to routine startup and shutdown conditions. The facility shall maintain a continuous, current log of all excess visible emissions showing the time at which such conditions began and ended and that such record shall be available to the Technical Secretary or his representative upon his request.

TAPCR 1200-03-05-.01(1), TAPCR 1200-03-05-.03(6) and TAPCR 1200-03-05-.02(1)

D2. General provisions and applicability for non-process gaseous emissions. Any person constructing or otherwise establishing a non-portable air contaminant source emitting gaseous air contaminants after April 3, 1972, or relocating an air contaminant source more than 1.0 km from the previous position after November 6, 1988, shall install and utilize the best equipment and technology currently available for controlling such gaseous emissions.

TAPCR 1200-03-06-.03(2)

D3. Non-process emission standards. The permittee shall not cause, suffer, allow, or permit particulate emissions from non-process sources in excess of the standards in TAPCR 1200-03-06.

D4. General provisions and applicability for process gaseous emissions. Any person constructing or otherwise establishing an air contaminant source emitting gaseous air contaminants after April 3, 1972, or relocating an air contaminant source more than 1.0 km from the previous position after November 6, 1988, shall install and utilize equipment and technology which is deemed reasonable and proper by the Technical Secretary.

TAPCR 1200-03-07-.07(2)

D5. Particulate emissions from process emission sources. The permittee shall not cause, suffer, allow, or permit particulate emissions from process sources in excess of the standards in TAPCR 1200-03-07.

D6. Sulfur dioxide emission standards. The permittee shall not cause, suffer, allow, or permit Sulfur dioxide emissions from process and non-process sources in excess of the standards in TAPCR 1200-03-14. Regardless of the specific emission standard, new process sources shall utilize the best available control technology as deemed appropriate by the Technical Secretary of the Tennessee Air Pollution Control Board.

D7. Fugitive Dust.

(a) The permittee shall not cause, suffer, allow, or permit any materials to be handled, transported, or stored; or a building, its appurtenances, or a road to be used, constructed, altered, repaired, or demolished without taking reasonable precautions to prevent particulate matter from becoming airborne. Such reasonable precautions shall include, but not be limited to, the following:

1. Use, where possible, of water or chemicals for control of dust in demolition of existing buildings or structures, construction operations, grading of roads, or the clearing of land;
2. Application of asphalt, oil, water, or suitable chemicals on dirt roads, material stock piles, and other surfaces which can create airborne dusts;
3. Installation and use of hoods, fans, and fabric filters to enclose and vent the handling of dusty materials. Adequate containment methods shall be employed during sandblasting or other similar operations.

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- (b) The permittee shall not cause, suffer, allow, or permit fugitive dust to be emitted in such manner to exceed five (5) minutes per hour or twenty (20) minutes per day as to produce a visible emission beyond the property line of the property on which the emission originates, excluding malfunction of equipment as provided in Chapter 1200-03-20.

TAPCR 1200-03-08

- D8. Open burning.** The permittee shall comply with the TAPCR 1200-03-04-.04 for all open burning activities at the facility.

TAPCR 1200-03-04

- D9. Asbestos.** Where applicable, the permittee shall comply with the requirements of 1200-03-11-.02(d) when conducting any renovation or demolition activities at the facility.

TAPCR 1200-03-11-.02(d) and 40 CFR, Part 61

- D10. Annual certification of compliance.** The generally applicable requirements set forth in Section D of this permit are intended to apply to activities and sources that are not subject to source-specific applicable requirements contained in State of Tennessee and U.S. EPA regulations. By annual certification of compliance, the permittee shall be considered to meet the monitoring and related record keeping and reporting requirements of TAPCR 1200-03-09-.02(11)(e)1.(iii) and 1200-03-10-.04(2)(b)1 and compliance requirements of TAPCR 1200-03-09-.02(11)(e)3.(i). The permittee shall submit compliance certification for these conditions annually.

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SECTION E

SOURCE SPECIFIC EMISSION STANDARDS, OPERATING LIMITATIONS, AND MONITORING, RECORDKEEPING AND REPORTING REQUIREMENTS

50-0003	Facility Description:	GrafTech Advanced Graphite Materials LLC. manufactures carbon bricks for use, primarily in steel furnaces. Other associated products manufactured include cement, paste, graphite flour, graphite particles and various assemblies comprised of these materials. High temperature thermowells, a metal ceramic product are also produced.
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Conditions E1 through E2 apply to all sources in section E of this permit unless otherwise noted.

E1. Fee Payment: Allowable Based Emission Fees

FEE EMISSIONS SUMMARY TABLE FOR MAJOR SOURCE 50-0003

REGULATED POLLUTANTS	ALLOWABLE EMISSIONS (tons per AAP)	ACTUAL EMISSIONS (tons per AAP)	COMMENTS
PARTICULATE MATTER (PM)	214.53	N/A	Includes all fee emissions.
PM₁₀	N/A	N/A	
SO₂	521.7	N/A	Includes all fee emissions.
VOC	46.5	N/A	Includes all fee emissions.
NO_x	26.37	N/A	
CATEGORY OF MISCELLANEOUS HAZARDOUS AIR POLLUTANTS (HAP WITHOUT A STANDARD)*			
VOC FAMILY GROUP	222.58	AEAR	Fee emissions are not included in VOC emissions above. These emissions are CS ₂ (3.64 tons) and COS (218.94 tons). (from sources 01 and 49)
NON-VOC GASEOUS GROUP	81.5	AEAR	Fee emissions are not included above. These emissions are TRS which includes H ₂ S. (from sources 01 and 49)
PM FAMILY GROUP	10	AEAR	Fee emissions are not included above. (from sources 01 and 49)
CATEGORY OF SPECIFIC HAZARDOUS AIR POLLUTANTS (HAP WITH A STANDARD)**			
VOC FAMILY GROUP	N/A	N/A	Fee emissions are included in VOC above.
NON-VOC GASEOUS GROUP	N/A	N/A	N/A
PM FAMILY GROUP	N/A	N/A	N/A
CATEGORY OF NSPS POLLUTANTS NOT LISTED ABOVE***			
EACH NSPS POLLUTANT NOT LISTED ABOVE	N/A	N/A	N/A

Notes:

AAP The Annual Accounting Period (AAP) is a twelve (12) consecutive month period that begins each July 1st and ends June 30th of the following year. The present Annual Accounting Period began July 1, 2016 and ends June 30, 2017. The next Annual Accounting Period begins July 1, 2017 and ends June 30, 2018.

N/A N/A indicates that no emissions are specified for fee computation.

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AEAR **AEAR** indicates that an **Actual Emissions Analysis** is **Required** to determine the actual emissions of:

- (1) **each regulated pollutant** (Particulate matter, SO₂, VOC, NO_x and so forth. See TAPCR 1200-3-26-.02(2)(i) for the definition of a regulated pollutant.),
- (2) **each pollutant group** (VOC Family, Non-VOC Gaseous, and Particulate Family), and
- (3) **the Miscellaneous HAP Category**

under consideration during the **Annual Accounting Period**.

* **Category Of Miscellaneous HAP (HAP Without A Standard):** This category is made-up of hazardous air **Family** group, the **Non-VOC Gaseous** group, or the **Particulate (PM) Family** group. **For fee computation**, the **Miscellaneous HAP Category** is subject to the 4,000 ton cap provisions of subparagraph 1200-03-26-.02(2)(i).

** **Category Of Specific HAP (HAP With A Standard):** This category is made-up of hazardous air pollutants (HAP) that are subject to Federally promulgated Hazardous Air Pollutant Standards that can be imposed under Chapter 1200-03-11 or Chapter 1200-03-31. Each individual hazardous air pollutant is classified into one of three groups, the **VOC Family** group, the **Non-VOC Gaseous** group, or the **Particulate (PM) Family** group. **For fee computation**, each individual hazardous air pollutant of the **Specific HAP Category** is subject to the 4,000 ton cap provisions of subparagraph 1200-03-26-.02(2)(i).

*** **Category Of NSPS Pollutants Not Listed Above:** This category is made-up of each New Source Performance Standard (NSPS) pollutant whose emissions are not included in the **PM, SO₂, VOC or NO_x** emissions from each source in this permit. **For fee computation**, each **NSPS pollutant not listed above** is subject to the 4,000 ton cap provisions of subparagraph 1200-03-26-.02(2)(i).

END NOTES

The permittee shall: (1) Pay major source annual **allowable based emission fees**, as requested by the responsible official, in accordance with the above **Fee Emissions Summary Table** for the current annual accounting period beginning July 1, 2015.

The Tennessee Air Pollution Control Division will bill the permittee no later than April 1 prior to the end of each **annual accounting period**. The annual emission fee is due July 1 following the end of each **annual accounting period**. If any part of any fee imposed under TAPCR 1200-03-26-.02 is not paid within fifteen (15) days of the due date, penalties shall at once accrue as specified in TAPCR 1200-03-26-.02(8). Emissions for regulated pollutants shall not be double counted as specified in Condition A8(d) of this permit.

Payment of the fee due shall be submitted to the Division of Fiscal Services at the address below.

Tennessee Department of Environment and Conservation
 Division of Fiscal Services (35-0004)
 William R. Snodgrass Tennessee Tower
 312 Rosa L. Parks Avenue, 10th Floor
 Nashville, TN 37243

TAPCR 1200-03-26-.02 (3) and (9), and 1200-03-09-.02(11)(e)1 (vii)

E2. Reporting Requirements.

(a) **Semiannual reports.** In order to maintain the same reporting schedule established in the original Title V permit, the first report for this renewal shall cover the following permits and time periods:

Permit	Report period begins	Report period ends
563249 (existing)	July 1, 2016	Day before issuance date of permit 570505
570505 (renewal)	Issuance date of permit 570505	December 31, 2016

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The report covering the full 6 month period shall be submitted within 60 days after December 31, 2016. Subsequent reports revert fully to permit #570505 and shall be submitted within 60 days after the end of each 6-month period following the first report. Semiannual periods continue to cover the periods January through June and July through December. All instances of deviations from permit requirements must be clearly identified in these reports and the reports must be certified by a responsible official.

Semiannual reports of this facility (50-0003) shall include:

- (1) Any monitoring and recordkeeping required by Conditions *E4-1(a), E4-1(b), E4-2, E5-1, E6-1, E7-1, E8-1, E8-2, E9-1, E10-1(b), E11-1, E12-1, E13-1, E14-4, E15-1(b), E16-1, and E16-2* of this permit. However, a summary report of this data is acceptable provided there is sufficient information to enable the Technical Secretary to evaluate compliance.
- (2) The visible emission evaluation readings from Conditions *E4-3, E5-2, E6-2, E7-2, E9-2, E10-2, E11-2, E12-2, and E13-2* of this permit if required. However, a summary report of this data is acceptable provided there is sufficient information to enable the Technical Secretary to evaluate compliance.
- (3) Identification of all instances of deviations* from **ALL PERMIT REQUIREMENTS**.

*Deviation shall mean any departure or any situation in which an emission source fails to comply with a permit term or condition. A deviation does not always constitute a Notice of Violation being issued by the Division. A deviation can be determined by observation or through review of data obtained from any testing, monitoring, or recordkeeping established in the Title V Major Source Operating Permit in accordance with TAPCR 1200-03-09-.02(11)(e). For a situation lasting more than 24 hours that constitutes a deviation, each 24 hour period is considered a separate deviation.

These reports must be certified by a responsible official consistent with Condition B4 of this permit and shall be submitted to The Technical Secretary at the Environmental Field Office address below. In lieu of mailing a hard copy of the report, the permittee may submit an electronic copy of the report to the email address below.

Columbia Environmental Field Office Division of Air Pollution Control 1421 Hampshire Pike Columbia, TN 38401	OR	APC.ColuEFO@tn.gov
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TAPCR 1200-03-09-.02(11)(e)1.(iii)

- (b) **Annual compliance certification.** The permittee shall submit annually compliance certifications with terms and conditions contained in Sections A, B, D, and E of this permit, including emission limitations, standards, or work practices. This compliance certification shall include all of the following (provided that the identification of applicable information may cross-reference the permit or previous reports, as applicable):
 - (1) The identification of each term or condition of the permit that is the basis of the certification;
 - (2) The identification of the method(s) or other means used by the owner or operator for determining the compliance status with each term and condition during the certification period; such methods and other means shall include, at a minimum, the methods and means required by this permit. If necessary, the owner or operator also shall identify any other material information that must be included in the certification to comply with section 113(c)(2) of the Federal Act, which prohibits knowingly making a false certification or omitting material information;

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- (3) The status of compliance with each term or condition of the permit for the period covered by the certification, including whether compliance during the period was continuous or intermittent. The certification shall be based on the method or means designated in E2(b)2 above. The certification shall identify each deviation and take it into account in the compliance certification. The certification shall also identify as possible exceptions to compliance any periods during which compliance is required and in which an *excursion or **exceedance as defined below occurred; and
- (4) Such other facts as the Technical Secretary may require to determine the compliance status of the source.

* “Excursion” shall mean a departure from an indicator range established for monitoring under this paragraph, consistent with any averaging period specified for averaging the results of the monitoring.

** “Exceedance” shall mean a condition that is detected by monitoring that provides data in terms of an emission limitation or standard and that indicates that emissions (or opacity) are greater than the applicable emission limitation or standard (or less than the applicable standard in the case of a percent reduction requirement) consistent with any averaging period specified for averaging the results of the monitoring.

In order to maintain the same reporting schedule established in the original Title V permit, the first certification for this 2nd renewal shall cover the following permits and time periods:

Permit	Certification period begins	Certification period ends
563249 (existing)	January1, 2016	Day before issuance date of permit 569191
570505 (renewal)	Issuance date of permit 570505	December 31, 2016

The certification covering the full 12 month period shall be submitted within 60 days after December, 2016. Subsequent certifications revert fully to permit #570505 and shall be submitted within 60 days after the end of each 12-month period following the first certification.

These certifications must be certified by a responsible official consistent with condition B4 of this permit and shall be submitted to the Columbia Environmental Field Office and U.S. EPA at the addresses below. In lieu of mailing a hard copy of the certification to the Columbia Environmental Field Office, the permittee may submit an electronic copy of the certification to the email address below.

Columbia Environmental Field Office Division of Air Pollution Control 1421 Hampshire Pike Columbia, TN 38401 OR air.pollution.control@tn.gov and APC.ColuEFO@tn.gov	and	Air and EPCRA Enforcement Branch US EPA Region IV 61 Forsyth Street, SW Atlanta, Georgia 30303
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40 CFR Part 70.6(c)(5)(iii) as amended in the Federal Register Vol. 79, No.144, July 28, 2014, pages 43661 through 43667

- (c) **Retention of Records** All records required by any condition in Section E of this permit must be retained for a period of not less than five years. Additionally, these records shall be kept available for inspection by the Technical Secretary or his representative.

DRAFT**E3. General Permit Requirements.****E3-1. Insignificant activities.**

An updated list of all insignificant activities, as stated by the permittee in the Title V Application per Rule 1200-03-09-.04(5), shall be maintained onsite and made available upon request by the Technical Secretary or his representative. Additional insignificant activities may be added and operated at any time with the provision that a written notification shall be submitted to the Technical Secretary, including an updated APC V.2 Application Form along with a Truth, Accuracy, and Completeness Statement signed by a responsible official.

E3-2. Record keeping requirements for this facility, including all data and calculations, must be updated and maintained based on the following schedule:

<u>Record Keeping Type</u>	<u>Update Requirement</u>
Monthly Log	Recorded within 30 days after the end of the month
Weekly Log	Recorded within 7 days after the end of the week
Daily Log	Recorded within 7 days after the end of the day

TAPCR 1200-03-10-.02(a)

Compliance Method: Maintain the recordkeeping schedule as required.

E3-3. Logs and records specified in this permit shall be made available upon request by the Technical Secretary or his representative and shall be retained for a period of not less than 5 years unless otherwise noted. Logs and records contained in this permit are based on a recommended format. Any logs that have an alternative format may be utilized provided such logs contain the same information that is required. Computer-generated logs are also acceptable. Logs and records are not required to be submitted semiannually unless specified in Condition **E2(a)(1)**.

TAPCR 1200-03-10-.02(a)

Compliance Method: Included with the requirement.

E3-4. Routine maintenance as required to comply with the specified emission limits shall be performed on the air pollution control devices. Monthly logs of maintenance and/or repair for each air pollution control device shall be kept. This includes, but is not limited to, baghouses, cyclones, and other air pollution control devices. The logs shall denote what maintenance and what repair was done, when it was done, by whom, and when problems were rectified denoting date accomplished. Use of computer-generated logs is also acceptable. Each maintenance/repair log must be made available upon request by the Technical Secretary or Division representative. Such logs must be maintained for 5 years. Records from these logs are not required to be submitted semiannually unless required in Condition **E2(a)(1)**.

TAPCR 1200-03-09-.02(11)(e)1.(iii)

Compliance Method: Included with the requirement.

E3-5. Upon the malfunction/failure of any emission control device(s) serving this source, the operation of the process(es) served by the device(s) shall be regulated by Chapter 1200-03-20 of the Tennessee Air Pollution Control Regulations.

TAPCR 1200-03-20

Compliance Method: Following the requirements as identified in TAPCR 1200-03-20.

E3-6. The permittee is not required to file an accidental release plan pursuant to Section 112(r) of the Clean Air Act and 1200-03-32 of TAPCR.

TAPCR 1200-03-32

Compliance Method: Following the requirement as identified in TAPCR 1200-03-32.

E3-7. CAM Plan. This facility is currently subject to regulations under 40 CFR part 64 (Compliance Assurance Monitoring).

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E3-8. This Title V Operating Permit No. 570505 represents the third renewal of the initial Title V Permit No. 547735 issued September 20, 2001.

Compliance Method: None. This condition identifies that this is the second renewal since the initial Title V permit.

E3-9 Identification of Responsible Official (RO), Technical Contact, and Billing Contact.

- (a) The application that was utilized in the preparation of this permit is dated June 29, 2015, and was signed by Responsible Official Tom Jacques, Vice President of HS&EP and Security. A letter dated July 7, 2016 designated Peter L Duncanson, General Manager, Refractory Systems. If this person terminates employment or is assigned different duties and is no longer a Responsible Official for this facility as defined in part 1200-03-09-.02(11)(b)21 of the Tennessee Air Pollution Control Regulations, the owner or operator of this air contaminant source shall notify the Technical Secretary of the change. Said notification must be in writing and must be submitted within thirty (30) days of the change. The notification shall include the name and title of the new Responsible Official and certification of truth and accuracy. All representations, agreement to terms and conditions, and covenants made by the former Responsible Official that were used in the establishment of the permit terms and conditions will continue to be binding on the facility until such time that a revision to this permit is obtained that would change said representations, agreements, and/or covenants.
- (b) The application that was utilized in the preparation of this permit is dated June 29, 2015, and identifies Beverly Philpot, Manager, Safety and Environmental Protection as the Principal Technical Contact for the permitted facility. If this person terminates employment or is assigned different duties and is no longer the Principal Technical Contact for this facility, the owner or operator of this air contaminant source shall notify the Technical Secretary of the change. Said notification must be in writing and must be submitted within thirty (30) days of the change. The notification shall include the name and title of the new Principal Technical Contact and certification of truth and accuracy.
- (c) The application that was utilized in the preparation of this permit is dated June 29, 2015, and identifies Beverly Philpot, Manager, Safety and Environmental Protection as the Billing Contact for the permitted facility. If this person terminates employment or is assigned different duties and is no longer the Billing Contact for this facility, the owner or operator of this air contaminant source shall notify the Technical Secretary of the change. Said notification must be in writing and must be submitted within thirty (30) days of the change. The notification shall include the name and title of the new Billing Contact and certification of truth and accuracy.

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50-0003-01	Source Description:	Carbon Brick Manufacturing and Paste Mixing Operation: Recycled graphite and carbon particles are charged into four brick presses where hydraulic pressure and electrical resistance heating is applied to form and bake each brick on a batch basis. The bricks are released from the presses, sprayed with water to aid cooling, and transferred to a pallet for air cooling. Carbon paste is produced by blending raw materials in a hot-oil heated sigma blade mixer and manually packaged in containers for shipping. A bagfilter dust collector controls emissions from the brick presses, paste mixing, and material handling and transfer points associated with this source. There is an ac-drive rapping system to assist in bag cleaning of the baghouse. This source exhausts through Stack BP-1 or through an identical and redundant dust collector with an emission stack identified as Stack BP-1A. This source has a Compliance Assurance Monitoring (CAM) plan.
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Conditions **E4-1** through **E4-3** apply to source 50-0003-01 as indicated.

E4-1. Material Process Restriction and Particulate Matter (PM) Emission Limitation

(a). The maximum material input rates to this source shall not exceed 7,449 pounds per hour and 16,355 tons per year.

TAPCR 1200-03-07-.03(1)

Compliance Method: Compliance with this condition shall be assured by the recordkeeping of a log in either manual or electronic format of the process material input rate as prescribed in Condition **E4-2** of this permit.

(b). Particulate matter (PM) emitted from this source shall not exceed a maximum of 8.11 pounds per hour.

TAPCR 1200-03-07-.03(1)

Compliance Method: Compliance with this requirement shall be assured by performing daily observations for the presence of visible emissions by following the **PROTOCOL FOR DETERMINATION OF BAGHOUSE VISIBLE EMISSIONS (Attachment 3)** when the baghouse is in operation as prescribed in the permittee's **COMPLIANCE ASSURANCE MONITORING (CAM) PLAN** dated November 4, 2010, that is enclosed as **Attachment 4**.

If during the observation visible emissions are observed, a certified observer will conduct a visual emission evaluation in accordance with VEE Method 9 or the baghouse will be shut down. If the reading results in opacity greater than twenty (20)%, the control device will be shut down and the appropriate maintenance action implemented. If the reading results in opacity greater than zero (0)% but less than twenty (20)%, the source may continue operation until the next scheduled shutdown. However, daily visible emissions must be conducted until the appropriate maintenance action has been taken to return the source to zero (0) visible emissions. VEE Method 9 is provided as **Attachment 1** of this permit.

A written log of the daily visible emission observations and any VEE Method 9 observations will be maintained at the facility and be available for inspection by the Tennessee Division of Air Pollution Control personnel. This log shall be used to assure compliance with this condition and in the reporting requirements of Condition **E2** of this permit.

TAPCR 1200-03-09-.02(11)(e)1(iii)

E4-2. Sulfur dioxide (SO₂), carbon monoxide (CO), volatile organic compounds (VOC), nitrogen oxides (NO_x), hydrogen sulfide (H₂S), and total reduced sulfur (TRS) emitted from this source shall not exceed the following:

Pollutant	Emissions (Pounds / hour)	Emissions (Tons / year)	TAPCR
SO ₂	179.46	438.00	1200-03-14-.03(1)
CO	16.80	73.60	1200-03-07-.07(2)
VOC	12.03	20.60	1200-03-07-.07(2)
NO _x	6.00	26.37	1200-03-07-.07(2)
H ₂ S	21.51	36.80	1200-03-07-.07(2)
TRS	43.13	73.80	1200-03-07-.07(2)

Compliance Method: Compliance with this condition shall be assured by the following procedure:

The material input rate and product output rate shall be monitored and recorded in either manual or electronic format, and the calculation of SO₂, CO, VOC, NO_x, H₂S, and TRS emissions shall be performed and recorded monthly in either manual or electronic format using the following equations:

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Pollutant Emission Rate (tons/month) = Product Output Rate (pounds/ month) X Emission Factor (pounds pollutant emitted/ pound product output) X (ton/2000 lbs); and

Pollutant Emission Rate (lb/hr) = [Pollutant Emission Rate (tons/month) X (2000 lbs/ ton)] / [24 hours/ day X no. days / month]

Material input rates may be estimated from product output rates using a factor of 1.085. where:

EMISSION FACTORS FOR BRICK PRODUCTION

Pollutant	Emission Factors (lbs. emitted / lb. material output)		Data Source
	High Sulfur Brick	Low Sulfur Brick	
TSP & PM10	0.00101	0.000965	February 1996 Source Test
NO _x	0.00	0.00	February 1996 Source Test
CO	0.00195	0.00195	July 1996 Source Test
VOC	0.00294	0.001235	July 1996 Source Test
SO ₂	0.0438	0.028515	July 1996 Source Test
H ₂ S	0.00525	0.00171	July 1996 Source Test
TRS	0.0105	0.003865	July 1996 Source Test
Particulate HAPs	0.000665	0.000632	1991 Source Test

EMISSION FACTORS FOR CARBON PASTE PRODUCTION

Pollutant	Emission Factor (lbs emitted / lb material output)	Data Source
TSP & PM10	0.00064	February 1996 Source Test
VOC	0.00037	July 1996 Source Test
SO ₂	0.00026	July 1996 Source Test
TRS	0.00041	July 1996 Source Test

TAPCR 1200-03-09-.02(11)(e)1(iii)

- E4-3.** Visible emissions from this source shall not exhibit greater than twenty percent (20%) opacity, except for one (1) six-minute period in any one (1) hour period, and for no more than four (4) six-minute periods in any twenty-four (24) hour period. Visible emissions from this source shall be determined by EPA Method 9, as published in the current 40 CFR 60, Appendix A (six-minute average).

TAPCR 1200-03-05-.03(6) and TAPCR 1200-03-05-.01(1)

Compliance method: The permittee shall assure compliance with the opacity standard by utilizing the opacity matrix dated June 18, 1996 (amended on September 11, 2013) that is enclosed as Attachment 1. Reports and certifications shall be submitted in accordance with Condition E2 of this permit.

If the magnitude and frequency of excursions reported by the permittee in the periodic monitoring for emissions is unsatisfactory to the Technical Secretary, this permit may be reopened to impose additional opacity monitoring requirements.

50-0003-02	Source Description:	Material Crushing, Sizing, and Bulk Storage : Raw materials are received and stored in bins. Some materials are resized by crushing. Scrap bricks are crushed in the scrap crusher for reuse in the process. The crushing operations are conducted in an enclosed, covered building to minimize emissions. Two bagfilter type dust collectors are used for control. The dust collector controlling the scrap crusher and associated storage bins exhausts through stack point D6. The dust collector controlling the crusher and associated storage bins exhausts through stack point D12. This source has a Compliance Assurance Monitoring (CAM) plan.
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DRAFTConditions **E5-1** and **E5-2** apply to source 50-0003-02 as indicated.**E5-1.** Particulate matter emitted from this source shall not exceed a maximum of 14.5 pounds per hour.

TAPCR 1200-03-07-.03(1)

Compliance Method: Compliance with this requirement shall be assured by performing daily observations for the presence of visible emissions by following the **PROTOCOL FOR DETERMINATION OF BAGHOUSE VISIBLE EMISSIONS (Attachment 3)** when the baghouse is in operation as prescribed in the permittee's **COMPLIANCE ASSURANCE MONITORING (CAM) PLAN** dated November 4, 2010, that is enclosed as **Attachment 4**.If during the observation visible emissions are observed, a certified observer will conduct a visual emission evaluation in accordance with VEE Method 9 or the baghouse will be shut down. If the reading results in opacity greater than twenty (20)%, the control device will be shut down and the appropriate maintenance action implemented. If the reading results in opacity greater than zero (0)% but less than twenty (20)%, the source may continue operation until the next scheduled shutdown. However, daily visible emissions must be conducted until the appropriate maintenance action has been taken to return the source to zero (0) visible emissions. VEE Method 9 is provided as **Attachment 1** of this permit.A written log of the daily visible emission observations and any VEE Method 9 observations will be maintained at the facility and be available for inspection by the Tennessee Division of Air Pollution Control personnel. This log shall be used to assure compliance with this condition and in the reporting requirements of Condition **E2** of this permit.

TAPCR 1200-03-09-.02(11)(e)1(iii)

E5-2. Visible emissions from this source shall not exhibit greater than twenty percent (20%) opacity, except for one (1) six-minute period in any one (1) hour period, and for no more than four (4) six-minute periods in any twenty-four (24) hour period. Visible emissions from this source shall be determined by EPA Method 9, as published in the current 40 CFR 60, Appendix A (six-minute average).

TAPCR 1200-03-05-.03(6) and TAPCR 1200-03-05-.01(1)

Compliance method: The permittee shall assure compliance with the opacity standard by utilizing the opacity matrix dated June 18, 1996 (amended on September 11, 2013) that is enclosed as Attachment 1. Reports and certifications shall be submitted in accordance with Condition E2 of this permit.

If the magnitude and frequency of excursions reported by the permittee in the periodic monitoring for emissions is unsatisfactory to the Technical Secretary, this permit may be reopened to impose additional opacity monitoring requirements.

50-0003-03	Source Description:	Brick Plant Airveyor: The brick plant raw materials (other than pitch) are transferred from storage bins to the Brick Plant (Building 1) by a common airveying system. The airveyor exhaust is controlled by a bagfilter type dust collector (stack emission point D7). This source has a Compliance Assurance Monitoring (CAM) plan.
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Conditions **E6-1** and **E6-2** apply to source 50-0003-03 as indicated.**E6-1.** Particulate matter emitted from this source shall not exceed 0.25 grains per dry standard cubic foot (10.5 pounds per hour).

TAPCR 1200-03-07-.04(2)

Compliance Method: Compliance with this requirement shall be assured by performing daily observations for the presence of visible emissions by following the **PROTOCOL FOR DETERMINATION OF BAGHOUSE VISIBLE EMISSIONS (Attachment 3)** when the baghouse is in operation as prescribed in the permittee's **COMPLIANCE ASSURANCE MONITORING (CAM) PLAN** dated November 4, 2010, that is enclosed as **Attachment 4**.If during the observation visible emissions are observed, a certified observer will conduct a visual emission evaluation in accordance with VEE Method 9 or the baghouse will be shut down. If the reading results in opacity greater than twenty (20)%, the control device will be shut down and the appropriate maintenance action implemented. If the reading results in opacity greater than zero (0)% but less than twenty (20)%, the source may continue operation until the next scheduled shutdown. However, daily visible emissions must be conducted until the appropriate maintenance action has been taken to return the source to zero (0) visible emissions. VEE Method 9 is provided as **Attachment 1** of this permit.

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A written log of the daily visible emission observations and any VEE Method 9 observations will be maintained at the facility and be available for inspection by the Tennessee Division of Air Pollution Control personnel. This log shall be used to assure compliance with this condition and in the reporting requirements of Condition **E2** of this permit.

TAPCR 1200-03-09-.02(11)(e)1(iii)

- E6-2.** Visible emissions from this source shall not exhibit greater than twenty percent (20%) opacity, except for one (1) six-minute period in any one (1) hour period, and for no more than four (4) six-minute periods in any twenty-four (24) hour period. Visible emissions from this source shall be determined by EPA Method 9, as published in the current 40 CFR 60, Appendix A (six-minute average).

TAPCR 1200-03-05-.03(6) and TAPCR 1200-03-05-.01(1)

Compliance method: The permittee shall assure compliance with the opacity standard by utilizing the opacity matrix dated June 18, 1996 (amended on September 11, 2013) that is enclosed as Attachment 1. Reports and certifications shall be submitted in accordance with Condition E2 of this permit.

If the magnitude and frequency of excursions reported by the permittee in the periodic monitoring for emissions is unsatisfactory to the Technical Secretary, this permit may be reopened to impose additional opacity monitoring requirements.

50-0003-04	Source Description:	Brick Plant Vac-U-Max System: Six (6) indoor vacuum systems for transfer of the materials from the Brick Plant storage hoppers to the blenders and an additional vacuum collection system for housekeeping. The exhausts from each of the seven emission points are controlled by bagfilter type dust collectors (stack emission points D29, D30, D31, D32, D33, D34, and D35).
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Conditions **E7-1** and **E7-2** apply to source 50-0003-04 as indicated.

- E7-1.** Particulate matter emitted from this source shall not exceed 0.25 grains per dry standard cubic foot (0.92 pounds per hour).

TAPCR 1200-03-07-.04(2)

Compliance Method: Compliance with this limitation shall be assured by periodic maintenance procedures and recordkeeping. The baghouse systems shall be monitored by periodic preventive maintenance procedures to insure the system collection and control efficiency is maintained. These procedures include inspection of the units and repair or replacement of defective parts. The inspections shall be performed at least quarterly and the results shall be recorded in a log. The following items shall be inspected: (1) the baghouse unit including filter bags, (2) the system dust removal components, and (3) the main blower unit. For upset conditions, maintenance procedures shall be performed and documented on completion of the corrective maintenance action.

TAPCR 1200-03-09-.02(11)(e)1(iii)

- E7-2.** Visible emissions from this source shall not exhibit greater than twenty percent (20%) opacity, except for one (1) six-minute period in any one (1) hour period, and for no more than four (4) six-minute periods in any twenty-four (24) hour period. Visible emissions from this source shall be determined by EPA Method 9, as published in the current 40 CFR 60, Appendix A (six-minute average).

TAPCR 1200-03-05-.03(6) and TAPCR 1200-03-05-.01(1)

Compliance method: The permittee shall assure compliance with the opacity standard by utilizing the opacity matrix dated June 18, 1996 (amended on September 11, 2013) that is enclosed as Attachment 1. Reports and certifications shall be submitted in accordance with Condition E2 of this permit.

If the magnitude and frequency of excursions reported by the permittee in the periodic monitoring for emissions is unsatisfactory to the Technical Secretary, this permit may be reopened to impose additional opacity monitoring requirements.

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50-0003-06	Source Description:	Graphitizing Process: Coke and other carbonaceous materials are graphitized in an electric induction furnace. Furnace exhaust emission point E-4; furnace pit area exhaust emission point E-20; material transfer points and product packaging areas bagfilter dust collector exhaust stack emission point D-26. Several insignificant emission units in the Metal Ceramics are also exhausted through emission point D-26. This source has a Compliance Assurance Monitoring (CAM) plan.
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Conditions **E8-1** through **E8-3** apply to source 50-0003-06 as indicated.

- E8-1.** Sulfur dioxide (SO₂) emitted from this source shall not exceed 16.1 pounds per hour and 51.6 tons during any twelve month period.

TAPCR 1200-03-14-.01(3) and agreement letter dated September 26, 1997

Compliance Method: Compliance with this limitation shall be assured by recordkeeping. A record of the certifications from the supplier of the sulfur content (by weight) for each carbon material shipment or sulfur analysis of a sample of each shipment by the permittee's laboratories must be maintained at the facility. Calculations using the following equations shall be performed monthly and the results recorded in a log (manual or electronic format) to be maintained at the facility.

- I. SO₂ emission rate (lbs/hr) = [average monthly material input rate (lbs /hr)] X [percent sulfur content (expressed as a fraction) of material] X [2 lbs SO₂ / lb of sulfur]

where material input rate = material output rate (lbs / hr) X material loss factor (currently 1.0)

Note: The permittee shall document any change in the loss factor that results from process adjustments.

- II. SO₂ emission rate (tons/month) = [monthly production batch weight (lbs)] X [(ton/ 2000 lbs)] X [percent sulfur content of material] X [2 lbs SO₂ / lb of sulfur]

The SO₂ emission rate in tons/ month will be summed to calculate the yearly SO₂ emissions (tons per year).

TAPCR 1200-03-09-.02(11)(e)1(iii)

- E8-2.** Particulate matter emitted from this source shall not exceed 0.02 grains per dry standard cubic foot (1.6 pounds per hour).

TAPCR 1200-03-07-.04(1)

Compliance Method: Compliance with this requirement shall be assured by performing daily observations for the presence of visible emissions by following the **PROTOCOL FOR DETERMINATION OF BAGHOUSE VISIBLE EMISSIONS (Attachment 3)** when the baghouse is in operation as prescribed in the permittee's **COMPLIANCE ASSURANCE MONITORING (CAM) PLAN** dated November 4, 2010, that is enclosed as **Attachment 4**.

If during the observation visible emissions are observed, a certified observer will conduct a visual emission evaluation in accordance with VEE Method 9 or the baghouse will be shut down. If the reading results in opacity greater than twenty (20)%, the control device will be shut down and the appropriate maintenance action implemented. If the reading results in opacity greater than zero (0)% but less than twenty (20)%, the source may continue operation until the next scheduled shutdown. However, daily visible emissions must be conducted until the appropriate maintenance action has been taken to return the source to zero (0) visible emissions. VEE Method 9 is provided as **Attachment 1** of this permit.

A written log of the daily visible emission observations and any VEE Method 9 observations will be maintained at the facility and be available for inspection by the Tennessee Division of Air Pollution Control personnel. This log shall be used to assure compliance with this condition and in the reporting requirements of Condition **E2** of this permit.

TAPCR 1200-03-09-.02(11)(e)1(iii)

- E8-3.** Visible emissions from this source shall not exhibit greater than twenty percent (20%) opacity, except for one (1) six-minute period in any one (1) hour period, and for no more than four (4) six-minute periods in any twenty-four (24) hour period. Visible emissions from this source shall be determined by EPA Method 9, as published in the current 40 CFR 60, Appendix A (six-minute average).

TAPCR 1200-03-05-.03(6) and TAPCR 1200-03-05-.01(1)

Compliance method: The permittee shall assure compliance with the opacity standard by utilizing the opacity matrix dated June 18, 1996 (amended on September 11, 2013) that is enclosed as Attachment 1. Reports and certifications shall be submitted in accordance with Condition E2 of this permit.

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If the magnitude and frequency of excursions reported by the permittee in the periodic monitoring for emissions is unsatisfactory to the Technical Secretary, this permit may be reopened to impose additional opacity monitoring requirements.

50-0003-07	Source Description:	Carbon Cement Blending and Packing: Cement materials are formulated and mixed in a blender in Building 5. After mixing, the cement is manually packaged. Bagfilter type dust collector control (exhaust stack emission point D11). This source has a Compliance Assurance Monitoring (CAM) plan.
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Conditions **E9-1** and **E9-2** apply to source 50-0003-07 as indicated.

E9-1. Particulate matter emitted from this source shall not exceed 0.25 grains per dry standard cubic foot (2.19 pounds per hour).

TAPCR 1200-03-07-.04(2)

Compliance Method: Compliance with this requirement shall be assured by performing daily observations for the presence of visible emissions by following the **PROTOCOL FOR DETERMINATION OF BAGHOUSE VISIBLE EMISSIONS (Attachment 3)** when the baghouse is in operation as prescribed in the permittee's **COMPLIANCE ASSURANCE MONITORING (CAM) PLAN** dated November 4, 2010, that is enclosed as **Attachment 4**.

If during the observation visible emissions are observed, a certified observer will conduct a visual emission evaluation in accordance with VEE Method 9 or the baghouse will be shut down. If the reading results in opacity greater than twenty (20)%, the control device will be shut down and the appropriate maintenance action implemented. If the reading results in opacity greater than zero (0)% but less than twenty (20)%, the source may continue operation until the next scheduled shutdown. However, daily visible emissions must be conducted until the appropriate maintenance action has been taken to return the source to zero (0) visible emissions. VEE Method 9 is provided as **Attachment 1** of this permit.

A written log of the daily visible emission observations and any VEE Method 9 observations will be maintained at the facility and be available for inspection by the Tennessee Division of Air Pollution Control personnel. This log shall be used to assure compliance with this condition and in the reporting requirements of Condition **E2** of this permit.

TAPCR 1200-03-09-.02(11)(e)1(iii)

E9-2. Visible emissions from this source shall not exhibit greater than twenty percent (20%) opacity, except for one (1) six-minute period in any one (1) hour period, and for no more than four (4) six-minute periods in any twenty-four (24) hour period. Visible emissions from this source shall be determined by EPA Method 9, as published in the current 40 CFR 60, Appendix A (six-minute average).

TAPCR 1200-03-05-.03(6) and TAPCR 1200-03-05-.01(1)

Compliance method: The permittee shall assure compliance with the opacity standard by utilizing the opacity matrix dated June 18, 1996 (amended on September 11, 2013) that is enclosed as Attachment 1. Reports and certifications shall be submitted in accordance with Condition E2 of this permit.

If the magnitude and frequency of excursions reported by the permittee in the periodic monitoring for emissions is unsatisfactory to the Technical Secretary, this permit may be reopened to impose additional opacity monitoring requirements.

50-0003-15	Source Description:	Graphite Milling: At Building 5, graphitized materials from the graphitization furnace and off-site generated graphitic materials are milled to reduce the particle size. Bagfilter control (exhaust stack emission point D17). This source has a Compliance Assurance Monitoring (CAM) plan.
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Conditions **E10-1** and **E10-2** apply to source 50-0003-15 as indicated.

E10-1. Material Process Restriction and Particulate Matter (PM) Emission Limitation

(a). The stated design capacity of this source is 1,000 pounds per hour of carbon materials. The Technical Secretary may require proof of compliance with this rate.

(b). Particulate matter emitted from this source shall not exceed a maximum of 2.3 pounds per hour.

TAPCR 1200-03-07-.03 and operating permit no. 031972P

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Compliance Method: Compliance with this limitation shall be assured by performing daily observations for the presence of visible emissions when the baghouse is in operation as prescribed in the protocol dated November 9, 2001. The protocol will utilize the U.S. EPA modified Method 22 like procedure that is enclosed as **Attachment 3**.

If during the observation visible emissions are observed, a certified observer will conduct a visual emission evaluation in accordance with VEE Method 9 or the baghouse will be shut down. If the reading results in opacity greater than twenty (20)%, the control device will be shut down and the appropriate maintenance action implemented. If the reading results in opacity greater than zero (0)% but less than twenty (20)%, the source may continue operation until the next scheduled shutdown. However, daily visible emissions must be conducted until the appropriate maintenance action has been taken to return the source to zero (0) visible emissions. VEE Method 9 is provided as **Attachment 1** of this permit.

A written log of the daily visible emission observations and any VEE Method 9 observations will be maintained at the facility and be available for inspection by the Tennessee Division of Air Pollution Control personnel. This log shall be used to assure compliance with this condition and in the reporting requirements of Condition **E2** of this permit.

TAPCR 1200-03-09-.02(11)(e)1(iii)

E10-2. Visible emissions from this source shall not exhibit greater than twenty percent (20%) opacity, except for one (1) six-minute period in any one (1) hour period, and for no more than four (4) six-minute periods in any twenty-four (24) hour period. Visible emissions from this source shall be determined by EPA Method 9, as published in the current 40 CFR 60, Appendix A (six-minute average).

TAPCR 1200-03-05-.03(6) and TAPCR 1200-03-05-.01(1)

Compliance method: The permittee shall assure compliance with the opacity standard by utilizing the opacity matrix dated June 18, 1996 (amended on September 11, 2013) that is enclosed as Attachment 1. Reports and certifications shall be submitted in accordance with Condition E2 of this permit.

If the magnitude and frequency of excursions reported by the permittee in the periodic monitoring for emissions is unsatisfactory to the Technical Secretary, this permit may be reopened to impose additional opacity monitoring requirements.

50-0003-16	Source Description:	Unmilled Graphite Airveyor: The unmilled graphite materials are transferred through an airveying system which exhausts through a bagfilter dust collector (stack emission point D19). This source has a Compliance Assurance Monitoring (CAM) plan.
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Conditions E11-1 and E11-2 apply to source 50-0003-16 as indicated.

E11-1. Particulate matter emitted from this source shall not exceed 0.25 grains per dry standard cubic foot (1.29 lb/hr).

TAPCR 1200-03-07-.04(2)

Compliance Method: Compliance with this requirement shall be assured by performing daily observations for the presence of visible emissions by following the **PROTOCOL FOR DETERMINATION OF BAGHOUSE VISIBLE EMISSIONS (Attachment 3)** when the baghouse is in operation as prescribed in the permittee's **COMPLIANCE ASSURANCE MONITORING (CAM) PLAN** dated November 4, 2010, that is enclosed as **Attachment 4**.

If during the observation visible emissions are observed, a certified observer will conduct a visual emission evaluation in accordance with VEE Method 9 or the baghouse will be shut down. If the reading results in opacity greater than twenty (20)%, the control device will be shut down and the appropriate maintenance action implemented. If the reading results in opacity greater than zero (0)% but less than twenty (20)%, the source may continue operation until the next scheduled shutdown. However, daily visible emissions must be conducted until the appropriate maintenance action has been taken to return the source to zero (0) visible emissions. VEE Method 9 is provided as **Attachment 1** of this permit.

A written log of the daily visible emission observations and any VEE Method 9 observations will be maintained at the facility and be available for inspection by the Tennessee Division of Air Pollution Control personnel. This log shall be used to assure compliance with this condition and in the reporting requirements of Condition **E2** of this permit.

TAPCR 1200-03-09-.02(11)(e)1(iii)

E11-2. Visible emissions from this source shall not exhibit greater than twenty percent (20%) opacity, except for one (1) six-minute period in any one (1) hour period, and for no more than four (4) six-minute periods in any twenty-four (24) hour period. Visible emissions from this source shall be determined by EPA Method 9, as published in the current 40 CFR 60, Appendix A (six-minute average).

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TAPCR 1200-03-05-.03(6) and TAPCR 1200-03-05-.01(1)

Compliance method: The permittee shall assure compliance with the opacity standard by utilizing the opacity matrix dated June 18, 1996 (amended on September 11, 2013) that is enclosed as Attachment 1. Reports and certifications shall be submitted in accordance with Condition E2 of this permit.

If the magnitude and frequency of excursions reported by the permittee in the periodic monitoring for emissions is unsatisfactory to the Technical Secretary, this permit may be reopened to impose additional opacity monitoring requirements.

50-0003-34	Source Description:	ZT-Process: Carbon blocks manufactured at off-site facilities are heated in an electric induction furnace and pressed for densification of the material. Furnace exhaust emission point E-19.
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Conditions **E12-1** and **E12-2** apply to source 50-0003-34 as indicated.

E12-1. Particulate matter emitted from this source shall not exceed 2.0 pounds per hour.

TAPCR 1200-03-07-.02(4)

Compliance Method: Compliance with this limitation shall be assured by recordkeeping. The total product input weight shall be determined and recorded prior to processing each item. The total product weight shall consist of the product itself, the rams, and insulating material. Total product weight shall not include the baseplate, canister, or heating ring. Also, the product heating time shall be recorded. The emission factor for the process is 0.002429 pounds of particulate matter per pound of product input (4.858 pounds of particulate per ton of product input). The emissions shall be calculated by the following equation:

$$\text{Emissions (lbs/hr)} = \frac{\text{product weight (lbs)} * \text{emission factor (lbs particulate /lb product input)}}{\text{Heating time (hrs)}}$$

The average hourly emissions for any month in which this source operates shall be calculated and recorded in electronic or manual format.

TAPCR 1200-03-09-.02(11)(e)1(iii)

E12-2. Visible emissions from this source shall not exhibit greater than twenty percent (20%) opacity, except for one (1) six-minute period in any one (1) hour period, and for no more than four (4) six-minute periods in any twenty-four (24) hour period. Visible emissions from this source shall be determined by EPA Method 9, as published in the current 40 CFR 60, Appendix A (six-minute average).

TAPCR 1200-03-05-.03(6) and TAPCR 1200-03-05-.01(1)

Compliance method: The permittee shall assure compliance with the opacity standard by utilizing the opacity matrix dated June 18, 1996 (amended on September 11, 2013) that is enclosed as Attachment 1. Reports and certifications shall be submitted in accordance with Condition E2 of this permit.

If the magnitude and frequency of excursions reported by the permittee in the periodic monitoring for emissions is unsatisfactory to the Technical Secretary, this permit may be reopened to impose additional opacity monitoring requirements.

50-0003-35	Source Description:	Brick Plant Pitch Airveyor: Pitch materials are transferred to the Brick Plant (Building 1) through an airveying system. Bagfilter dust collector control (exhaust stack emission point D22). This source has a Compliance Assurance Monitoring (CAM) plan.
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Conditions **E13-1** and **E13-2** apply to source 50-0003-35 as indicated.

E13-1. Particulate matter emitted from this source shall not exceed 0.25 grains per dry standard cubic foot (1.88 lb/hr).

TAPCR 1200-03-07-.04(2)

Compliance Method: Compliance with this requirement shall be assured by performing daily observations for the presence of visible emissions by following the **PROTOCOL FOR DETERMINATION OF BAGHOUSE VISIBLE EMISSIONS (Attachment 3)** when the baghouse is in operation as prescribed in the permittee's **COMPLIANCE ASSURANCE MONITORING (CAM) PLAN** dated November 4, 2010, that is enclosed as **Attachment 4**.

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If during the observation visible emissions are observed, a certified observer will conduct a visual emission evaluation in accordance with VEE Method 9 or the baghouse will be shut down. If the reading results in opacity greater than twenty (20)%, the control device will be shut down and the appropriate maintenance action implemented. If the reading results in opacity greater than zero (0)% but less than twenty (20)%, the source may continue operation until the next scheduled shutdown. However, daily visible emissions must be conducted until the appropriate maintenance action has been taken to return the source to zero (0) visible emissions. VEE Method 9 is provided as **Attachment 1** of this permit.

A written log of the daily visible emission observations and any VEE Method 9 observations will be maintained at the facility and be available for inspection by the Tennessee Division of Air Pollution Control personnel. This log shall be used to assure compliance with this condition and in the reporting requirements of Condition **E2** of this permit.

TAPCR 1200-03-09-.02(11)(e)1(iii)

E13-2. Visible emissions from this source shall not exhibit greater than twenty percent (20%) opacity, except for one (1) six-minute period in any one (1) hour period, and for no more than four (4) six-minute periods in any twenty-four (24) hour period. Visible emissions from this source shall be determined by EPA Method 9, as published in the current 40 CFR 60, Appendix A (six-minute average).

TAPCR 1200-03-05-.03(6) and TAPCR 1200-03-05-.01(1)

Compliance method: The permittee shall assure compliance with the opacity standard by utilizing the opacity matrix dated June 18, 1996 (amended on September 11, 2013) that is enclosed as Attachment 1. Reports and certifications shall be submitted in accordance with Condition E2 of this permit.

If the magnitude and frequency of excursions reported by the permittee in the periodic monitoring for emissions is unsatisfactory to the Technical Secretary, this permit may be reopened to impose additional opacity monitoring requirements.

50-0003-47	Source Description:	Graphite Rigid Insulation Process: Graphite felt is primed with water and furfuryl alcohol. A GRI Unit is composed of five subassemblies. The units are then cured in one of two natural gas fired ovens. Also, the two ovens of this source may be used to cure header pusher electrode assemblies (see source 50-0003-48). Oven nominal heat input capacity of 0.5 million BTU per hour - each unit. For fee purposes emissions from combustion of natural gas for NOx, VOC, and SO2 are negligible and therefore are not required to be accounted for at this source. Exhaust points for the emissions is located at E22 and E23.
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Conditions **E14-1** through **E14-6** apply to source 50-0003-47 as indicated.

E14-1. The maximum heat input capacity for this source shall not exceed a total of 1,000,000 BTU per hour. The Technical Secretary may require proof of compliance with this rate.

Construction Permit 953208P

E14-2. Only natural gas shall be used as fuel for this source. Compliance with this restriction shall be assured annually by certification.

Construction Permit 953208P

E14-3. Particulate matter emitted from this source shall not exceed 0.6 pounds per million British Thermal Units (lb/MMBtu) (0.6 pounds per hour).

TAPCR 1200-03-06-.02(2)

Compliance Method: Compliance for this limitation shall be assured by use of natural gas only as fuel and calculations based upon the AP-42 emission factor for combustion of natural gas. Data from AP-42 is enclosed as **Attachment 2**.

TAPCR 1200-03-09-.02(11)(e)1(iii)

E14-4. Volatile organic compounds (VOC) emitted from this source shall not exceed 4.4 tons during any twelve month period.

TAPCR 1200-03-07-.07(2)

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Compliance Method: Compliance with this limitation shall be assured by recordkeeping. VOC emissions shall be calculated and recorded monthly in electronic or manual format according to the following format or an alternative format which readily provides the same required information:

MONTHLY EMISSION LOG FOR SOURCE 50-0003-47

Process Materials	Usage (lb)	Month	Year
		VOC Content (lb/lb)	VOC Emitted (ton/month)
Material #1			
Material #2			
Etc.			
Total			

YEARLY VOC EMISSIONS LOG FOR SOURCE 50-0003-47

Month/Year	VOC Emissions (Tons per Month)	VOC* Emissions Tons Per 12 months

*The Tons per 12 Months value is the sum of the VOC emissions in the 11 months preceding the month just completed + the VOC emissions in the month just completed. If data is not available for the 11 months preceding the initial use of this Table, this value will be equal to the value for tons per month. For the second month, it will be the sum of the first month and the second month. Indicate in the parentheses the number of months summed (i.e. 6(2) represents 6 tons emitted in 2 months). This log is the total amount of VOC emitted to the air on a 12-month consecutive basis.

TAPCR 1200-03-09-.02(11)(e)1(iii)

E14-5. The as-supplied VOC content of all VOC containing materials to be used by this source shall be determined as follows:

All raw materials, adhesives, thinners, and solvents – from material safety data sheets (MSDS) or manufacturer or vendor formulation data which explicitly list the VOC content by weight.

The results of these determinations shall be compiled in the following tabular format or an alternative format, which readily provides the same required information. This table, along with MSDS or other supporting documentation for each material used, shall be maintained at the source location and made available for inspection by the Technical Secretary or his representative. If new materials are used, or if material formulation is changed, the table shall be updated within 90 days from the initial date of usage of the new or altered material.

Process Material Description	Material Density (lb/gal)	VOC Content (lb/gal)
Material #1		
Material #2		
Etc.		

E14-6. Visible emissions from this source shall not exhibit greater than twenty percent (20%) opacity, except for one (1) six-minute period in any one (1) hour period, and for no more than four (4) six-minute periods in any twenty-four (24) hour period. Visible emissions from this source shall be determined by EPA Method 9, as published in the current 40 CFR 60, Appendix A (six-minute average).

TAPCR 1200-03-05-.03(6) and TAPCR 1200-03-05-.01(1)

Compliance method: The permittee shall assure compliance with the opacity standard by utilizing the opacity matrix dated June 18, 1996 (amended on September 11, 2013) that is enclosed as Attachment 1. Reports and certifications shall be submitted in accordance with Condition E2 of this permit.

If the magnitude and frequency of excursions reported by the permittee in the periodic monitoring for emissions is unsatisfactory to the Technical Secretary, this permit may be reopened to impose additional opacity monitoring requirements.

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50-0003-48	Source Description:	Graphite Machining: Four graphite electrodes are machined and cemented together using precoating and carbonaceous cement, both containing furfuryl alcohol. The electrodes are drilled to produce a header electrode/ pusher electrode assembly. The electrode assemblies are cured in the GRI ovens of source 50-0003-47. Baghouse for dust control (D-36). This source has a Compliance Assurance Monitoring (CAM) plan.
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Conditions **E15-1** and **E15-2** apply to source 50-0003-48 as indicated.

E15-1. Material Process Restriction and Particulate Matter (PM) Emission Limitation

(a). The stated input design capacity of this source is 468 pounds per hour of electrodes. The Technical Secretary may require proof of compliance with this rate.

(b). Particulate matter (PM) emitted from this source shall not exceed a maximum of 1.46 pounds per hour.

TAPCR 1200-03-07-.03(1) and Construction Permit 953209P

Compliance Method: Compliance with this requirement shall be assured by performing daily observations for the presence of visible emissions by following the **PROTOCOL FOR DETERMINATION OF BAGHOUSE VISIBLE EMISSIONS (Attachment 3)** when the baghouse is in operation as prescribed in the permittee's **COMPLIANCE ASSURANCE MONITORING (CAM) PLAN** dated November 4, 2010, that is enclosed as **Attachment 4**.

If during the observation visible emissions are observed, a certified observer will conduct a visual emission evaluation in accordance with VEE Method 9 or the baghouse will be shut down. If the reading results in opacity greater than twenty (20)%, the control device will be shut down and the appropriate maintenance action implemented. If the reading results in opacity greater than zero (0)% but less than twenty (20)%, the source may continue operation until the next scheduled shutdown. However, daily visible emissions must be conducted until the appropriate maintenance action has been taken to return the source to zero (0) visible emissions. VEE Method 9 is provided as **Attachment 1** of this permit.

A written log of the daily visible emission observations and any VEE Method 9 observations will be maintained at the facility and be available for inspection by the Tennessee Division of Air Pollution Control personnel. This log shall be used to assure compliance with this condition and in the reporting requirements of Condition **E2** of this permit.

TAPCR 1200-03-09-.02(11)(e)1(iii)

E15-2. Visible emissions from this source shall not exhibit greater than twenty percent (20%) opacity, except for one (1) six-minute period in any one (1) hour period, and for no more than four (4) six-minute periods in any twenty-four (24) hour period. Visible emissions from this source shall be determined by EPA Method 9, as published in the current 40 CFR 60, Appendix A (six-minute average).

TAPCR 1200-03-05-.03(6) and TAPCR 1200-03-05-.01(1)

Compliance method: The permittee shall assure compliance with the opacity standard by utilizing the opacity matrix dated June 18, 1996 (amended on September 11, 2013) that is enclosed as Attachment 1. Reports and certifications shall be submitted in accordance with Condition E2 of this permit.

If the magnitude and frequency of excursions reported by the permittee in the periodic monitoring for emissions is unsatisfactory to the Technical Secretary, this permit may be reopened to impose additional opacity monitoring requirements.

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50-0003-49	Source Description:	Carbon Brick Manufacturing Press 7: Recycled graphite and carbon particles are charged into a brick press where hydraulic pressure and electrical resistance heating is applied to form and bake each brick on a batch basis. The bricks are released from the press, sprayed with water to aid cooling, and transferred to a pallet for air cooling. A wet caustic scrubber is used in conjunction with a bagfilter dust collector, which controls emissions from the brick press. Stack BP-2 This source has a Compliance Assurance Monitoring (CAM) plan.
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Conditions **E16-1** through **E16-3** apply to source 50-0003-49 as indicated.

E16-1. Particulate matter emitted from this source shall not exceed a maximum of 1.67 pounds per hour.

Note: Due to the nature of this operation total suspended particulates (TSP) are quantified as PM₁₀.

TAPCR 1200-03-07-.01(5)

Compliance Method: Compliance demonstration for PM₁₀ is based on test data obtained from the compliance test performed on March 31, 2005. During the test the total PM₁₀ emissions from this source was 0.51 pounds per hour based on the average of sample runs two and three. This value demonstrates compliance with the particulate emission limit of 1.67 pounds per hour. Continual compliance with this requirement shall be assured by:

Performing daily observations for the presence of visible emissions by following the **PROTOCOL FOR DETERMINATION OF BAGHOUSE VISIBLE EMISSIONS (Attachment 3)** when the baghouse is in operation as prescribed in the permittee's **COMPLIANCE ASSURANCE MONITORING (CAM) PLAN** dated November 4, 2010, that is enclosed as **Attachment 4**.

If during the observation visible emissions are observed, a certified observer will conduct a visual emission evaluation in accordance with VEE Method 9 or the baghouse will be shut down. If the reading results in opacity greater than twenty (20)%, the control device will be shut down and the appropriate maintenance action implemented. If the reading results in opacity greater than zero (0)% but less than twenty (20)%, the source may continue operation until the next scheduled shutdown. However, daily visible emissions must be conducted until the appropriate maintenance action has been taken to return the source to zero (0) visible emissions. VEE Method 9 is provided as **Attachment 1** of this permit.

A written log of the daily visible emission observations and any VEE Method 9 observations will be maintained at the facility and be available for inspection by the Tennessee Division of Air Pollution Control personnel. This log shall be used to assure compliance with this condition and in the reporting requirements of Condition **E2** of this permit.

TAPCR 1200-03-09-.02(11)(e)1(iii)

E16-2. Sulfur dioxide (SO₂), Hydrogen sulfide (H₂S), and Total reduced sulfur (TRS) emitted from this source shall not exceed the following:

Pollutant	Emissions (Pounds / hour)	Emissions (Tons / year)	TAPCR
SO ₂	7.3	32.0	1200-03-14-.03(5)
H ₂ S	0.88	3.85	1200-03-07-.01(5)
TRS	1.76	7.70	1200-03-07-.07(2)

Compliance Method: Compliance with these limitations shall be assured by maintaining a pH between 9.0 and 13.0, and a minimum flow rate of 80 gallons per minute of the scrubbing liquid for the second stage of the packed bed scrubber as prescribed in the permittee's **COMPLIANCE ASSURANCE MONITORING (CAM) PLAN** dated November 4, 2010, that is enclosed as **Attachment 4**. The pH and flow rate shall be recorded once daily when the source is in operation. The days when the source does not operate shall be noted. Routine maintenance, as required to maintain specified emission limits, shall be performed on the air pollution control devices. Maintenance records shall be recorded in a suitable permanent form and kept available for inspection by the Division. These records must be kept for a period of not less than five (5) years.

TAPCR 1200-03-09-.02(11)(e)1(iii)

This source shall not operate without the use of a baghouse and a wet caustic scrubber.

In the event it becomes necessary to demonstrate compliance with the emission rates above, the following table provides emission factors for calculations. These factors may be replaced with the most recent performance test, provided the Technical Secretary has accepted the test results.

EMISSION FACTORS FOR BRICK PRODUCTION PRESS 7

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Pollutant	Emission Factors (lb. emitted / lb. material input)
	High Sulfur Brick
TSP	0.00101
VOC*	0.00294
SO ₂	0.00438
H ₂ S	0.000525
TRS	0.00105

* VOC is listed for fee purposes. VOC emissions were calculated to be 21.5 tons per year based on maximum material input rate on Title V application.

TAPCR 1200-3-9-.02(11)(e)1(iii) and construction permit 956998P

E16-3. Visible emissions from this source shall not exhibit greater than twenty percent (20%) opacity, except for one (1) six-minute period in any one (1) hour period, and for no more than four (4) six-minute periods in any twenty-four (24) hour period. Visible emissions from this source shall be determined by EPA Method 9, as published in the current 40 CFR 60, Appendix A (six-minute average).

TAPCR 1200-03-05-.03(6) and TAPCR 1200-03-05-.01(1)

Compliance method: The permittee shall assure compliance with the opacity standard by utilizing the opacity matrix dated June 18, 1996 (amended on September 11, 2013) that is enclosed as Attachment 1. Reports and certifications shall be submitted in accordance with Condition E2 of this permit.

If the magnitude and frequency of excursions reported by the permittee in the periodic monitoring for emissions is unsatisfactory to the Technical Secretary, this permit may be reopened to impose additional opacity monitoring requirements.

END OF PERMIT NUMBER: 570505

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ATTACHMENT 1

**OPACITY MATRIX DECISION TREE for
VISIBLE EMISSION EVALUATION METHOD 9
dated JUNE 18, 1996 and amended September 11, 2013**

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Decision Tree PM for Opacity for Sources Utilizing EPA Method 9*

Notes:

PM = Periodic Monitoring required by 1200-03-09-.02(11)(e)(iii).

This Decision Tree outlines the criteria by which major sources can meet the periodic monitoring and testing requirements of Title V for demonstrating compliance with the visible emission standards set forth in the permit. It is not intended to determine compliance requirements for EPA's Compliance Assurance Monitoring (CAM) Rule (formerly referred to as Enhanced Monitoring – Proposed 40 CFR 64).

Examine each emission unit using this Decision Tree to determine the PM required.*

Use of continuous emission monitoring systems eliminates the need to do any additional periodic monitoring.

Visible Emission Evaluations (VEEs) are to be conducted utilizing EPA Method 9. The observer must be properly certified to conduct valid evaluations.

Typical Pollutants
Particulates, VOC, CO, SO₂, NO_x, HCl, HF, HBr, Ammonia, and Methane.

Initial observations are to be repeated within 90 days of startup of a modified source, if a new construction permit is issued for modification of the source.

A VEE conducted by TAPCD personnel after the Title V permit is issued will also constitute an initial reading.

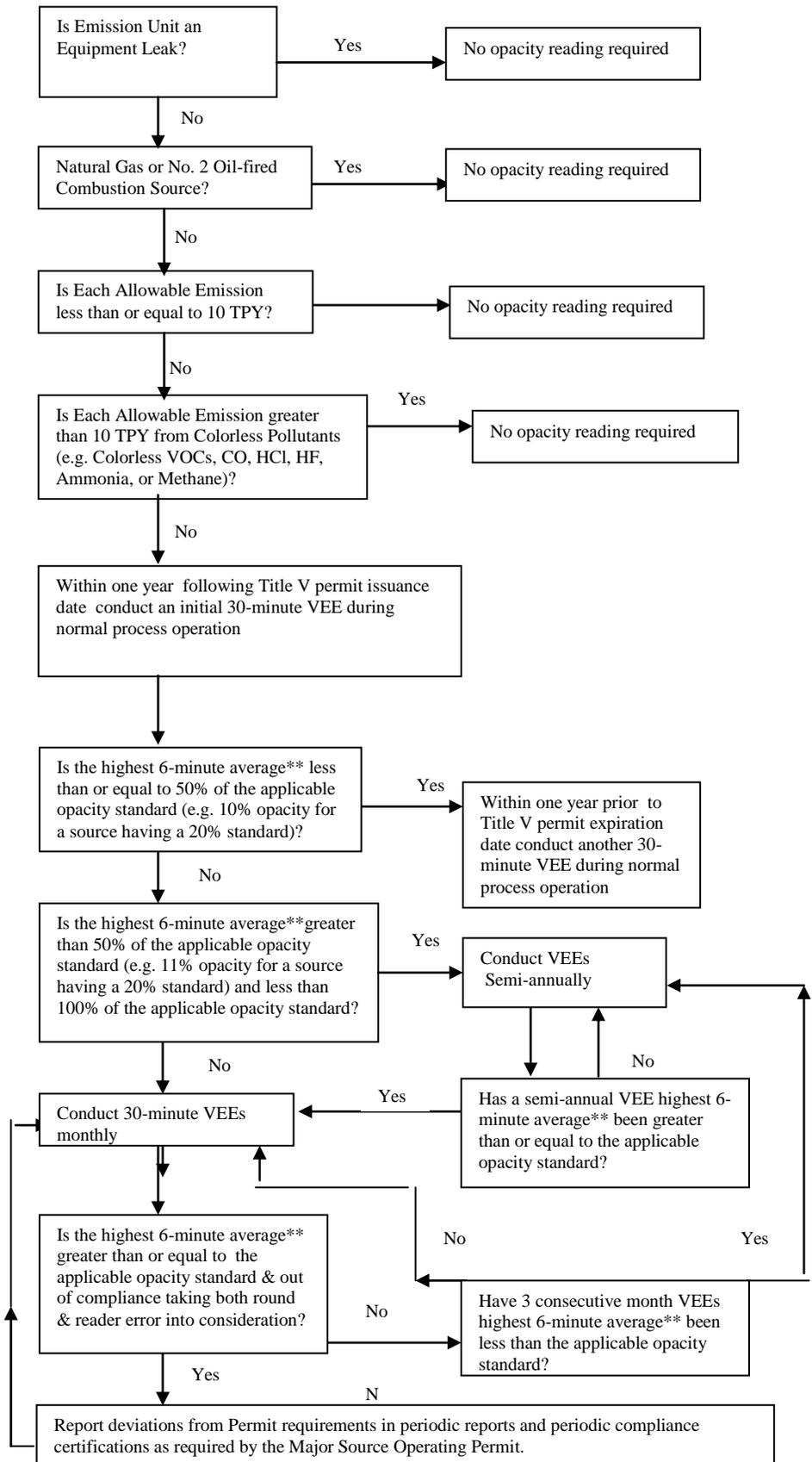
Reader Error
EPA Method 9, Non-NSPS or NESHAPS stipulated opacity standards:
The TAPCD guidance is to declare non-compliance when the highest six-minute average** exceeds the standard plus 6.8% opacity (e.g. 26.8% for a 20% standard).

EPA Method 9, NSPS or NESHAPS stipulate opacity standards:
EPA guidance is to allow only engineering round. No allowance for reader error is given.

*Not applicable to Asbestos manufacturing subject to 40 CFR 61.142

**Or second highest six-minute average, if the source has an exemption period stipulated in either the regulations or in the permit.

Dated June 18, 1996
Amended September 11, 2013



Permit Number: 570505

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Expiration Date: December XX, 2021

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ATTACHMENT 2

AP-42 Table for Natural Gas Combustion Emission Factors

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TABLE 1.4-2. EMISSION FACTORS FOR CRITERIA POLLUTANTS AND GREENHOUSE GASES FROM NATURAL GAS COMBUSTION^a

Pollutant	Emission Factor (lb/10 ⁶ scf)	Emission Factor Rating
CO ₂ ^b	120,000	A
Lead	0.0005	D
N ₂ O (Uncontrolled)	2.2	E
N ₂ O (Controlled-low-NO _x burner)	0.64	E
PM (Total) ^c	7.6	D
PM (Condensable) ^c	5.7	D
PM (Filterable) ^c	1.9	B
SO ₂ ^d	0.6	A
TOC	11	B
Methane	2.3	B
VOC	5.5	C

^a Reference 11. Units are in pounds of pollutant per million standard cubic feet of natural gas fired. Data are for all natural gas combustion sources. To convert from lb/10⁶ scf to kg/10⁶ m³, multiply by 16. To convert from lb/10⁶ scf to lb/MMBtu, divide by 1,020. The emission factors in this table may be converted to other natural gas heating values by multiplying the given emission factor by the ratio of the specified heating value to this average heating value. TOC = Total Organic Compounds. VOC = Volatile Organic Compounds.

^b Based on approximately 100% conversion of fuel carbon to CO₂. CO₂[lb/10⁶ scf] = (3.67) (CON) (C)(D), where CON = fractional conversion of fuel carbon to CO₂, C = carbon content of fuel by weight (0.76), and D = density of fuel, 4.2x10⁴ lb/10⁶ scf.

^c All PM (total, condensable, and filterable) is assumed to be less than 1.0 micrometer in diameter. Therefore, the PM emission factors presented here may be used to estimate PM₁₀, PM_{2.5} or PM₁ emissions. Total PM is the sum of the filterable PM and condensable PM. Condensable PM is the particulate matter collected using EPA Method 202 (or equivalent). Filterable PM is the particulate matter collected on, or prior to, the filter of an EPA Method 5 (or equivalent) sampling train.

^d Based on 100% conversion of fuel sulfur to SO₂.

Assumes sulfur content is natural gas of 2,000 grains/10⁶ scf. The SO₂ emission factor in this table can be converted to other natural gas sulfur contents by multiplying the SO₂ emission factor by the ratio of the site-specific sulfur content (grains/10⁶ scf) to 2,000 grains/10⁶ scf.

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ATTACHMENT 3
PROTOCOL FOR DETERMINATION OF BAGHOUSE
VISIBLE EMISSIONS

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**Visual Emission Observation Training
U. S. EPA Modified Method 22-Like Procedure
GrafTech Advanced Graphite Materials LLC.
Lawrenceburg, Tennessee**

In order to ensure compliance with the particulate matter limits specific to emission sources 50-0003-01, -02, -03, -06, -07, -15, -16, -35, -48, and -49, Title V Permit Number 570505 requires only the determination of whether a visible emission is present, and not the determination of opacity levels. Field training will be used in conjunction with the parameters identified in the training procedure below to qualify employees responsible for determining the presence of visible emissions, utilizing a U. S. EPA modified Method 22-like Procedure. A certified EPA Method 9 Visible Emissions Evaluator shall conduct the training. Training shall be documented.

Training Procedure

1. Identification of Sources Requiring Visible Emission Determination

- Carbon Brick Manufacturing and Paste Mixing Operation (Source No. 50-0003-01, Brick Plant Dust Collector No. BP-1 or BP-1A)
- Material Crushing, Sizing and Bulk Storage (Source No. 50-0003-02, Bulk Systems Dust Collector No. D-12, and Scrap Crusher Dust Collector No. D-6)
- Brick Plant Airveyor (Source No. 50-0003-03, Dust Collector No. D-7)
- Graphitizing Process (Source No. 50-0003-06, S-Furnace Dust Collector No. D-26)
- Carbon Cement Blending and Packing (Source No. 50-0003-07, Dust Collector No. D-11)
- Graphite Milling (Source No. 50-0003-15, Dust Collector No. D-17)
- Unmilled Graphite Airveyor (Source No. 50-0003-16, Dust Collector No. D-19)
- Brick Plant Pitch Airveyor (Source No. 50-0003-35, Dust Collector No. D-22)
- Graphite Machining (Source No. 50-0003-48, Dust Collector No. D-36)
- Carbon Brick Manufacturing Press 7 (Source No. 50-0003-49, Dust Collector No. BP-2)

2. Frequency of Observations

- Observations are required daily.
- Observations shall be made only during daylight hours.

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3. Position of Observer Conducting Visible Emission Evaluation

- The observer must stand at a distance that provides total perspective and a good view of the baghouse exhaust stack.
- The distance from the exhaust stack shall be at least 15 feet but not more than 0.25 mile from the base of the stack.
- The sun should be oriented to the observer's back. During overcast weather conditions the position of the sun is less important.
- The location must be safe for the observer.
- The observer shall determine whether visible emissions are present by visually observing the exhaust stack of the baghouse.

4. Documentation Requirements

The visible emission evaluation shall be documented and include the following:

- The observer's name,
- Date of the observation,
- Clock time when the observation is conducted,
- Emission source number,
- Baghouse identification and location, and
- Whether or not any visible emissions are observed from the baghouse exhaust stack and any relevant information.

If the process is shut down, or is not in operation during daylight hours, "NIO" (Not in Operation) shall be recorded in the comments section of the *Visible Emissions Evaluation Form*.

5. Procedure if Visible Emissions Are Present

- If visible emissions are present, a certified observer will conduct an EPA Method 9 visible emission observation OR the baghouse will be shut down.
- If the certified reading is 0% opacity, continue operation as normal,
- If the certified reading is between 0% and 20% opacity, the source may continue to operate until the next scheduled shutdown, however daily certified visible emission readings must be conducted until maintenance action has been taken to return the source to zero visible emissions.'

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- If the certified reading is greater than 20%, the source shall be shut down until the appropriate maintenance action is implemented.

6. Retention of Documentation

- The completed *Visible Emissions Observation Form* shall be forwarded to the Health, Safety & Environmental Protection (HS&EP) Department.
- The documentation shall be retained for a period of not less than five (5) years by the HS&EP Department.

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ATTACHMENT 4
COMPLIANCE ASSURANCE MONITORING (CAM) PLAN
REVISION 2, DATED NOVEMBER 4, 2010

COMPLIANCE ASSURANCE MONITORING PLAN

GrafTech Advanced Graphite Materials LLC.

Lawrenceburg, Tennessee

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1.0 INTRODUCTION

1.1 CAM Plans

The Compliance Assurance Monitoring (CAM) rule, as documented in 40 CFR Part 64, sets out requirements for Title V Sources to monitor the operation and maintenance of their control equipment. The CAM rule establishes criteria that define required monitoring of existing control devices to provide reasonable assurance of compliance with emission limits and standards. The goal of the monitoring is to help sources certify compliance under the Title V operating permits program.

For sources that meet the applicability criteria the rule requires the facility to develop and conduct monitoring. The monitoring plan, known as a CAM Plan, must include an acceptable range within which to operate the control device (known as an “indicator range”). Operation of the control devices within acceptable ranges will minimize emissions and provide reasonable assurance that the facility is complying with permit terms and conditions. Conversely, if control equipment is found to be operating outside acceptable ranges, prompt corrective actions are necessary to return it to a normal operating status.

According to the provisions of the CAM rule, applicability is assessed on a pollutant-specific emission unit (PSEU) basis. PSEUs are defined as emission units evaluated separately for each pollutant emitted. Thus an emission unit that emits sulfur dioxide, oxides of nitrogen (NOX) and particulate matter is considered three (3) separate PSEUs for the purposes of CAM.

CAM plans are required if a PSEU meets all three of the following criteria (with certain exemptions as documented in the rule):

- ▶ the unit complies with air regulations by using control equipment
- ▶ the unit by itself, without the control equipment, has a potential to emit (PTE) at major source levels
- ▶ the unit is subject to a federally enforceable emission limit

1.2 GrafTech Lawrenceburg Facility

The facility manufactures carbon bricks for use in steel furnaces, carbon cement and paste, graphite flour, carbon and graphite assemblies, and high temperature thermowells composed of metal and ceramic. The facility is considered a major source under the definitions of 40 CFR Part 70. GrafTech first applied for a Title V Operating Permit on 5 June 1997 and was issued an initial Title V Operating Permit by Tennessee Division of Air Pollution Control (TDAPC) on 20 September 2001 with a three-year duration.

Baghouses are employed on many of the sources to control particulate emissions in order to meet emission limits. Compliance demonstration monitoring for these emissions units under the initial Title V consisted of a daily visible emissions check per an approved protocol for the larger units and a quarterly preventive maintenance program for the smaller units. For those units that meet the CAM

applicability thresholds, GrafTech has elected to uniformly implement the daily visible emissions check as the basis of the CAM Plan.

1.3 CAM Applicability Analysis

As a precursor to developing CAM Plans, GrafTech conducted a CAM applicability analysis. According to the applicability criteria as summarized above, only PSEU with control devices were considered. Additionally, since GrafTech has no data regarding the sizing of particulate matter emitted from our processes, we have chosen, at this time, to assume all particulate matter is PM10. Table 1 summarizes our results.

Table 1
CAM Applicability Analysis

Source	Permitted Emission Rate <lb/hr>	Pre-control Emission Rate <tpy>
Brick Plant	8.11	710.44
Material Crushing	14.50	1,270.20
Brick Plant Airveyor	10.50	919.80
Vac – U – Max	0.92	80.59
Graphitizing	2.20	192.72
Carbon Cement Blending	2.19	191.84
Graphite Milling	2.30	201.48
Unmilled Graphite Airveyor	1.29	113.00
Brick Plant Pitch Airveyor	1.88	164.69
Graphite Machining	1.46	127.90

GrafTech notes that according to the documentation we submitted with our initial Title V Operating Permit application, we assumed the control efficiency for all baghouses was between 95% and 99%. Pre-control emissions as listed above assumed that the units all operated at the lower end of this range.

SECTION 1

**CARBON BRICK MANUFACTURING AND PASTE MIXING OPERATION
BP1, BP1A**

I. Background

a. Emissions Unit

- i. Description: Carbon Brick Manufacturing and Paste Mixing Operation
- ii. Identification: BP1, BP1A
- iii. Facility: GrafTech International Holding Inc.

b. Applicable Regulation, Emission Limit, and Monitoring Requirements

- i. Applicable Requirement: Permit Condition E4-1(b), TAPCR 1200-03-07-.03(1)
- ii. Emission limits: Particulate Matter: 8.11 lbs/hr
- iii. Monitoring Requirements: Visible emissions, daily observations (modified Method 22-like procedure, see Attachment 3)

c. Control Technology: Baghouse

II. Monitoring Approach

a. Indicator

- i. Type Visible Emissions
- ii. Measurement Approach: Visible emissions from the baghouse exhaust will be monitored daily using (modified Method 22-like procedure, see Attachment 3)

b. Indicator Range

- i. Indicator Level: No visible emissions
- ii. QIP Threshold: The QIP threshold is five excursions in a

6-month reporting period

c. Performance Criteria

- i. Data Representativeness Measurements are made at the emission point and are indicative of good operation and maintenance of the baghouse.
- ii. Verification of Operational Status NA
- iii. QA/QC Practices and Criteria The observer will be educated on the general procedures (modified Method 22-like procedure, see Attachment 3) for determining the presence of visible emissions.
- iv. Monitoring Frequency and Data Collection Procedure A (modified Method 22-like procedure, see Attachment 3) observation will be performed daily

III. Rationale for Selection of Performance Indicator

Graftech selected visible emissions as a performance indicator for this control device. Experience indicates that given proper operation and maintenance, there should be no visible emissions when observed by individuals trained (but not necessarily certified) in (modified Method 22-like procedure, see Attachment 3) observations. The presence of visible emissions therefore indicates the possibility of a malfunction in the control device.

IV. Rationale for Selection of Indicator Level

Graftech selected no visible emissions when observed by an individual trained (but not necessarily certified) in (modified Method 22-like procedure, see Attachment 3) observations. No visible emission was selected because:

- ▶It does not require qualitative assessment by the observer as to the degree of opacity
- ▶Is clearly indicative of a potential malfunction of the control device

The selected QIP threshold for baghouse visible emissions is five excursions in a 6-month reporting period. This level is three percent of the total visible emissions observations. If the QIP threshold is exceeded in a semiannual reporting period, a QIP will be developed and implemented.

SECTION 2

**MATERIAL CRUSHING, SIZING, AND BULK STORAGE
D12**

I. Background

a. Emissions Unit

- i. Description: Material Crushing, Sizing, and Bulk Storage
- ii. Identification: D12
- iii. Facility: GrafTech International Holding Inc.

b. Applicable Regulation, Emission Limit, and Monitoring Requirements

- i. Applicable Requirement: Permit Condition E5-1,
TAPCR 1200-03-07-.03(1)
- ii. Emission limits: Particulate Matter: 14.5 lbs/hr
- iii. Monitoring Requirements: Visible emissions, daily observations

(modified Method 22-like procedure, see Attachment 3)

c. Control Technology: Baghouse

II. Monitoring Approach

a. Indicator

- i. Type Visible Emissions
- ii. Measurement Approach Visible emissions from the baghouse exhaust

will be monitored daily using (modified Method 22-like procedure, see Attachment 3)

b. Indicator Range

- i. Indicator Level No visible emissions
- ii. QIP Threshold The QIP threshold is five excursions in a

6-month reporting period

c. Performance Criteria

Compliance Assurance Monitoring Plan

4 November 2010

Tennessee Emission Source 50-0003

- | | | |
|------|--|---|
| i. | Data Representativeness | Measurements are made at the emission point and are indicative of good operation and maintenance of the baghouse. |
| ii. | Verification of Operational Status | NA |
| iii. | QA/QC Practice and Criteria | The observer will be educated on the general procedures ((modified Method 22-like procedure, see Attachment 3) for determining the presence of visible emissions. |
| iv. | Monitoring Frequency and Data Collection Procedure | A (modified Method 22-like procedure, see Attachment 3) observation will be performed daily for each baghouse. |

III. Rationale for Selection of Performance Indicator

Graftech selected visible emissions as a performance indicator for this control device. Experience indicates that given proper operation and maintenance, there should be no visible emissions when observed by individuals trained (but not necessarily certified) in (modified Method 22-like procedure, see Attachment 3) observations. The presence of visible emissions therefore indicates the possibility of a malfunction in the control device.

IV. Rationale for Selection of Indicator Level

Graftech selected no visible emissions when observed by an individual trained (but not necessarily certified) in (modified Method 22-like procedure, see Attachment 3) observations. No visible emission was selected because:

- ▶It does not require qualitative assessment by the observer as to the degree of opacity
- ▶Is clearly indicative of a potential malfunction of the control device

The selected QIP threshold for baghouse visible emissions is five excursions in a 6-month reporting period. This level is three percent of the total visible emissions observations. If the QIP threshold is exceeded in a semiannual reporting period, a QIP will be developed and implemented.

SECTION 3

**MATERIAL CRUSHING, SIZING, AND BULK STORAGE
D6**

I. Background

a. Emissions Unit

- i. Description: Material Crushing, Sizing, and Bulk Storage
- ii. Identification: D6
- iii. Facility: GrafTech International Holding Inc.

b. Applicable Regulation, Emission Limit, and Monitoring Requirements

- i. Applicable Requirement: Permit Condition E5-1, TAPCR 1200-03-07-03(1)
- ii. Emission limits: Particulate Matter: 14.5 lbs/hr
- iii. Monitoring Requirements: Visible emissions, daily observations (modified Method 22-like procedure, see Attachment 3)

c. Control Technology: Baghouse

II. Monitoring Approach

a. Indicator

- i. Type Visible Emissions
- ii. Measurement Approach: Visible emissions from the baghouse exhaust will be monitored daily using (modified Method 22-like procedure, see Attachment 3)

b. Indicator Range

- i. Indicator Level: No visible emissions
- ii. QIP Threshold: The QIP threshold is five excursions in a 6-month reporting period

c. Performance Criteria

- i. Data Representativeness Measurements are made at the emission point and are indicative of good operation and maintenance of the baghouse.
- ii. Verification of Operational Status NA
- iii. QA/QC Practices and Criteria The observer will be educated on the general procedures (modified Method 22-like procedure, see Attachment 3) for determining the presence of visible emissions.
- iv. Monitoring Frequency and Data Collection Procedure A (modified Method 22-like procedure, see Attachment 3) observation will performed daily for each baghouse.

III. Rationale for Selection of Performance Indicator

Graftech selected visible emissions as a performance indicator for this control device. Experience indicates that given proper operation and maintenance, there should be no visible emissions when observed by individuals trained (but not necessarily certified) in (modified Method 22-like procedure, see Attachment 3) observations. The presence of visible emissions therefore indicates the possibility of a malfunction in the control device.

IV. Rationale for Selection of Indicator Level

Graftech selected no visible emissions when observed by an individual trained (but not necessarily certified) in (modified Method 22-like procedure, see Attachment 3) observations. No visible emission was selected because:

- ▶It does not require qualitative assessment by the observer as to the degree of opacity
- ▶Is clearly indicative of a potential malfunction of the control device

The selected QIP threshold for baghouse visible emissions is five excursions in a 6-month reporting period. This level is three percent of the total visible emissions observations. If the QIP threshold is exceeded in a semiannual reporting period, a QIP will be developed and implemented.

SECTION 4

**BRICK PLANT AIRVEYOR
D7**

I. Background

a. Emissions Unit

- i. Description: Brick Plant Airveyor
- ii. identification: D7
- iii. Facility: GrafTech International Holding Inc.

b. Applicable Regulation, Emission Limit, and Monitoring Requirements

- i. Applicable Requirement: Permit Condition E6-1,
TAPCR 1200-03-07-04(2)
 - ii. Emission limits: Particulate Matter: 0.25 gr/dscf(10.5 lbs/hr)
 - iii. Monitoring Requirements: Visible emissions, daily observations

(modified Method 22-like procedure, see Attachment 3)
- c. Control Technology:* Baghouse

II. Monitoring Approach

a. Indicator

- i. Type Visible Emissions
- ii. Measurement Approach Visible emissions from the baghouse

exhaust will be monitored daily using (modified Method 22-like procedure, see Attachment 3)

b. Indicator Range

- i. Indicator Level No visible emissions
- ii. QIP Threshold The QIP threshold is five excursions in a

6-month reporting period

c. Performance Criteria

i.	Data	
	Representativeness	Measurements are made at the emission point and are indicative of good operation and maintenance of the baghouse.
ii.	Verification of	
	Operational Status	NA
iii.	QA/QC Practices and Criteria	The observer will be educated on the general procedures (modified Method 22-like procedure, see Attachment 3) for determining the presence of visible emissions.
iv.	Monitoring Frequency and	
	Data Collection Procedure	A (modified Method 22-like procedure, see Attachment 3) observation will be performed daily.

III. Rationale for Selection of Performance Indicator

Graftech selected visible emissions as a performance indicator for this control device. Experience indicates that given proper operation and maintenance, there should be no visible emissions when observed by individuals trained (but not necessarily certified) in (modified Method 22-like procedure, see Attachment 3) observations. The presence of visible emissions therefore indicates the possibility of a malfunction in the control device.

IV. Rationale for Selection of Indicator Level

Graftech selected no visible emissions when observed by an individual trained (but not necessarily certified) in (modified Method 22-like procedure, see Attachment 3) observations. No visible emission was selected because:

- ▶It does not require qualitative assessment by the observer as to the degree of opacity
- ▶Is clearly indicative of a potential malfunction of the control device

The selected QIP threshold for baghouse visible emissions is five excursions in a 6-month reporting period. This level is three percent of the total visible emissions observations. If the QIP threshold is exceeded in a semiannual reporting period, a QIP will be developed and implemented.

SECTION 5

**GRAPHITIZING PROCESS
D26**

I. Background

a. Emissions Unit

- i. Description: Graphitizing Process
- ii. identification: D26
- iii. Facility: GrafTech International Holding Inc.

b. Applicable Regulation, Emission Limit, and Monitoring Requirements

- i. Applicable Requirement: Permit Condition E8-2,
TAPCR 1200-03-07-.04(1)
 - ii. Emission limits: Particulate Matter: 0.02 gr/dscf(1.6 lbs/hr)
 - iii. Monitoring Requirements: Visible emissions, daily observations

(modified Method 22-like procedure, see Attachment 3)
- c. Control Technology:* Baghouse

II. Monitoring Approach

a. Indicator

- i. Type Visible Emissions
- ii. Measurement Approach Visible emissions from the baghouse exhaust

will be monitored daily using (modified Method 22-like procedure, see Attachment 3)

b. Indicator Range

- i. Indicator Level No visible emissions
- ii. QIP Threshold The QIP threshold is five excursions in a

6-month reporting period

c. Performance Criteria

- i. Data
 - Representativeness Measurements are made at the emission point and are indicative of good operation and maintenance of the baghouse.
- ii. Verification of
 - Operational Status NA
- iii. QA/QC Practices and Criteria
 - The observer will be educated on the general procedures (modified Method 22-like procedure, see Attachment 3) for determining the presence of visible emissions.
- iv. Monitoring Frequency and
 - Data Collection Procedure A (modified Method 22-like procedure, see Attachment 3) observation will be performed daily.

III. Rationale for Selection of Performance Indicator

Graftech selected visible emissions as a performance indicator for this control device. Experience indicates that given proper operation and maintenance, there should be no visible emissions when observed by individuals trained (but not necessarily certified) in (modified Method 22-like procedure, see Attachment 3) observations. The presence of visible emissions therefore indicates the possibility of a malfunction in the control device.

IV. Rationale for Selection of Indicator Level

Graftech selected no visible emissions when observed by an individual trained (but not necessarily certified) in (modified Method 22-like procedure, see Attachment 3) observations. No visible emission was selected because:

- ▶It does not require qualitative assessment by the observer as to the degree of opacity
- ▶Is clearly indicative of a potential malfunction of the control device

The selected QIP threshold for baghouse visible emissions is five excursions in a 6-month reporting period. This level is three percent of the total visible emissions observations. If the QIP threshold is exceeded in a semiannual reporting period, a QIP will be developed and implemented.

SECTION 6

**CARBON CEMENT BLENDING AND PACKAGING
D11**

I. Background

a. Emissions Unit

- i. Description: Carbon Cement Blending and Packaging
- ii. identification: D11
- iii. Facility: GrafTech International Holding Inc.

b. Applicable Regulation, Emission Limit, and Monitoring Requirements

- i. Applicable Requirement: Permit Condition E9-1,
TAPCR 1200-03-07-.04(2)
- ii. Emission limits: Particulate Matter: 0.25 gr/dscf(2.19 lbs/hr)
- iii. Monitoring Requirements: Visible emissions, daily observations
(modified Method 22-like procedure, see Attachment 3)

c. Control Technology: Baghouse

II. Monitoring Approach

a. Indicator

- i. Type Visible Emissions
- ii. Measurement Approach Visible emissions from the baghouse exhaust
will be monitored daily using (modified Method 22-like procedure, see Attachment 3)

b. Indicator Range

- i. Indicator Level No visible emissions
- ii. QIP Threshold The QIP threshold is five excursions in a
6-month reporting period

c. Performance Criteria

- i. Data
 - Representativeness Measurements are made at the emission point and are indicative of good operation and maintenance of the baghouse.
- ii. Verification of
 - Operational Status NA
- iii. QA/QC Practices and Criteria
 - The observer will be educated on the general procedures (modified Method 22-like procedure, see Attachment 3) for determining the presence of visible emissions.
- iv. Monitoring Frequency and
 - Data Collection Procedure A (modified Method 22-like procedure, see Attachment 3) observation will be performed daily.

III. Rationale for Selection of Performance Indicator

Graftech selected visible emissions as a performance indicator for this control device. Experience indicates that given proper operation and maintenance, there should be no visible emissions when observed by individuals trained (but not necessarily certified) in (modified Method 22-like procedure, see Attachment 3) observations. The presence of visible emissions therefore indicates the possibility of a malfunction in the control device.

IV. Rationale for Selection of Indicator Level

Graftech selected no visible emissions when observed by an individual trained (but not necessarily certified) in (modified Method 22-like procedure, see Attachment 3) observations. No visible emission was selected because:

- ▶It does not require qualitative assessment by the observer as to the degree of opacity
- ▶Is clearly indicative of a potential malfunction of the control device

The selected QIP threshold for baghouse visible emissions is five excursions in a 6-month reporting period. This level is three percent of the total visible emissions observations. If the QIP threshold is exceeded in a semiannual reporting period, a QIP will be developed and implemented.

SECTION 7

**GRAPHITE MILLING
D17**

I. Background

a. Emissions Unit

- i. Description: Graphite Milling
- ii. identification: D17
- iii. Facility: GrafTech International Holding Inc.

b. Applicable Regulation, Emission Limit, and Monitoring Requirements

- i. Applicable Requirement: Permit Condition E10-1(b),
TAPCR 1200-03-07-.03
- ii. Emission limits: Particulate Matter: 2.3 lbs/hr
- iii. Monitoring Requirements: Visible emissions, daily observations
(modified Method 22-like procedure, see Attachment 3)

c. Control Technology: Baghouse

II. Monitoring Approach

a. Indicator

- i. Type Visible Emissions
- ii. Measurement Approach Visible emissions from the baghouse exhaust
will be monitored daily using (modified Method 22-like procedure, see Attachment 3)

b. Indicator Range

- i. Indicator Level No visible emissions
- ii. QIP Threshold The QIP threshold is five excursions in a
6-month reporting period

c. Performance Criteria

- i. Data
 - Representativeness Measurements are made at the emission point and are indicative of good operation and maintenance of the baghouse.
- ii. Verification of
 - Operational Status NA
- iii. QA/QC Practices and Criteria
 - The observer will be educated on the general procedures (modified Method 22-like procedure, see Attachment 3) for determining the presence of visible emissions.
- iv. Monitoring Frequency and
 - Data Collection Procedure A (modified Method 22-like procedure, see Attachment 3) observation will be performed daily.

III. Rationale for Selection of Performance Indicator

Graftech selected visible emissions as a performance indicator for this control device. Experience indicates that given proper operation and maintenance, there should be no visible emissions when observed by individuals trained (but not necessarily certified) in (modified Method 22-like procedure, see Attachment 3) observations. The presence of visible emissions therefore indicates the possibility of a malfunction in the control device.

IV. Rationale for Selection of Indicator Level

Graftech selected no visible emissions when observed by an individual trained (but not necessarily certified) in (modified Method 22-like procedure, see Attachment 3) observations. No visible emission was selected because:

- ▶It does not require qualitative assessment by the observer as to the degree of opacity
- ▶Is clearly indicative of a potential malfunction of the control device

The selected QIP threshold for baghouse visible emissions is five excursions in a 6-month reporting period. This level is three percent of the total visible emissions observations. If the QIP threshold is exceeded in a semiannual reporting period, a QIP will be developed and implemented.

SECTION 8

**UNMILLED GRAPHITE AIRVEYOR
D19**

I. Background

a. Emissions Unit

- i. Description: Unmilled Graphite Airveyor
- ii. identification: D19
- iii. Facility: GrafTech International Holding Inc.

b. Applicable Regulation, Emission Limit, and Monitoring Requirements

- i. Applicable Requirement: Permit Condition E11-1,
TAPCR 1200-03-07-.04(2)
- ii. Emission limits: Particulate Matter: 0.25 gr/dscf(1.29 lbs/hr)
- iii. Monitoring Requirements: Visible emissions, daily observations
(modified Method 22-like procedure, see Attachment 3)

c. Control Technology: Baghouse

II. Monitoring Approach

a. Indicator

- i. Type Visible Emissions
- ii. Measurement Approach Visible emissions from the baghouse exhaust
will be monitored daily using (modified Method 22-like procedure, see Attachment 3)

b. Indicator Range

- i. Indicator Level No visible emissions
- ii. QIP Threshold The QIP threshold is five excursions in a
6-month reporting period

c. Performance Criteria

- i. Data
 - Representativeness Measurements are made at the emission point and are indicative of good operation and maintenance of the baghouse.
- ii. Verification of
 - Operational Status NA
- iii. QA/QC Practices and Criteria
 - The observer will be educated on the general procedures (modified Method 22-like procedure, see Attachment 3) for determining the presence of visible emissions.
- iv. Monitoring Frequency and
 - Data Collection Procedure A (modified Method 22-like procedure, see Attachment 3) observation will be performed daily.

III. Rationale for Selection of Performance Indicator

Graftech selected visible emissions as a performance indicator for this control device. Experience indicates that given proper operation and maintenance, there should be no visible emissions when observed by individuals trained (but not necessarily certified) in (modified Method 22-like procedure, see Attachment 3) observations. The presence of visible emissions therefore indicates the possibility of a malfunction in the control device.

IV. Rationale for Selection of Indicator Level

Graftech selected no visible emissions when observed by an individual trained (but not necessarily certified) in (modified Method 22-like procedure, see Attachment 3) observations. No visible emission was selected because:

- ▶It does not require qualitative assessment by the observer as to the degree of opacity
- ▶Is clearly indicative of a potential malfunction of the control device

The selected QIP threshold for baghouse visible emissions is five excursions in a 6-month reporting period. This level is three percent of the total visible emissions observations. If the QIP threshold is exceeded in a semiannual reporting period, a QIP will be developed and implemented.

SECTION 9

**BRICK PLANT PITCH AIRVEYOR
D22**

I. Background

a. Emissions Unit

- | | |
|---------------------|-------------------------------------|
| i. Description: | Brick Plant Pitch Airveyor |
| ii. identification: | D22 |
| iii. Facility: | GrafTech International Holding Inc. |

b. Applicable Regulation, Emission Limit, and Monitoring Requirements

- | | |
|-------------------------------|--|
| i. Applicable Requirement: | Permit Condition E13-1,
TAPCR 1200-03-07-.04(2) |
| ii. Emission limits: | Particulate Matter: 0.25 gr/dscf(1.88 lbs/hr) |
| iii. Monitoring Requirements: | Visible emissions, daily observations

(modified Method 22-like procedure, see Attachment 3) |

c. Control Technology:

Baghouse

II. Monitoring Approach

a. Indicator

- | | |
|---------------------------|--|
| i. Type Visible Emissions | |
| ii. Measurement Approach | Visible emissions from the baghouse exhaust

will be monitored daily using (modified Method 22-like procedure, see Attachment 3) |

b. Indicator Range

- | | |
|--------------------|---|
| i. Indicator Level | No visible emissions |
| ii. QIP Threshold | The QIP threshold is five excursions in a

6-month reporting period |

c. Performance Criteria

- i. Data
 - Representativeness Measurements are made at the emission point and are indicative of good operation and maintenance of the baghouse.
- ii. Verification of
 - Operational Status NA
- iii. QA/QC Practices and Criteria
 - The observer will be educated on the general procedures (modified Method 22-like procedure, see Attachment 3) for determining the presence of visible emissions.
- iv. Monitoring Frequency and
 - Data Collection Procedure A (modified Method 22-like procedure, see Attachment 3) observation will be performed daily.

III. Rationale for Selection of Performance Indicator

Graftech selected visible emissions as a performance indicator for this control device. Experience indicates that given proper operation and maintenance, there should be no visible emissions when observed by individuals trained (but not necessarily certified) in (modified Method 22-like procedure, see Attachment 3) observations. The presence of visible emissions therefore indicates the possibility of a malfunction in the control device.

IV. Rationale for Selection of Indicator Level

Graftech selected no visible emissions when observed by an individual trained (but not necessarily certified) in (modified Method 22-like procedure, see Attachment 3) observations. No visible emission was selected because:

- ▶It does not require qualitative assessment by the observer as to the degree of opacity
- ▶Is clearly indicative of a potential malfunction of the control device

The selected QIP threshold for baghouse visible emissions is five excursions in a 6-month reporting period. This level is three percent of the total visible emissions observations. If the QIP threshold is exceeded in a semiannual reporting period, a QIP will be developed and implemented.

SECTION 10

**GRAPHITE MACHINING
D36**

I. Background

a. Emissions Unit

- i. Description: Graphite Machining
- ii. identification: D36
- iii. Facility: GrafTech International Holding Inc.

b. Applicable Regulation, Emission Limit, and Monitoring Requirements

- i. Applicable Requirement: Permit Condition E15-1 (b),
TAPCR 1200-03-07-.03(1)
- ii. Emission limits: Particulate Matter: 1.46 lbs/hr
- iii. Monitoring Requirements: Visible emissions, daily observations
(modified Method 22-like procedure, see Attachment 3)

c. Control Technology: Baghouse

II. Monitoring Approach

a. Indicator

- i. Type Visible Emissions
- ii. Measurement Approach Visible emissions from the baghouse exhaust
will be monitored daily using (modified Method 22-like procedure, see Attachment 3)

b. Indicator Range

- i. Indicator Level No visible emissions
- ii. QIP Threshold The QIP threshold is five excursions in a
6-month reporting period

c. Performance Criteria

- i. Data
 - Representativeness Measurements are made at the emission point and are indicative of good operation and maintenance of the baghouse.
- ii. Verification of
 - Operational Status NA
- iii. QA/QC Practices and Criteria
 - The observer will be educated on the general procedures (modified Method 22-like procedure, see Attachment 3) for determining the presence of visible emissions.
- iv. Monitoring Frequency and
 - Data Collection Procedure A (modified Method 22-like procedure, see Attachment 3) observation will be performed daily.

III. Rationale for Selection of Performance Indicator

Graftech selected visible emissions as a performance indicator for this control device. Experience indicates that given proper operation and maintenance, there should be no visible emissions when observed by individuals trained (but not necessarily certified) in (modified Method 22-like procedure, see Attachment 3) observations. The presence of visible emissions therefore indicates the possibility of a malfunction in the control device.

IV. Rationale for Selection of Indicator Level

Graftech selected no visible emissions when observed by an individual trained (but not necessarily certified) in (modified Method 22-like procedure, see Attachment 3) observations. No visible emission was selected because:

- ▶It does not require qualitative assessment by the observer as to the degree of opacity
- ▶Is clearly indicative of a potential malfunction of the control device

The selected QIP threshold for baghouse visible emissions is five excursions in a 6-month reporting period. This level is three percent of the total visible emissions observations. If the QIP threshold is exceeded in a semiannual reporting period, a QIP will be developed and implemented.

SECTION 11

**CARBON BRICK PRESS #7
BP2**

PM10**I. Background****a. Emissions Unit**

- i. Description: Carbon Brick Press #7
- ii. identification: BP2
- iii. Facility: GrafTech International Holding Inc.

b. Applicable Regulation, Emission Limit, and Monitoring Requirements

- i. Applicable Requirement: Permit Condition E16-1,
TAPCR 1200-03-07-.01(2)
- ii. Emission limits: PM10: 1.67 lbs/hr
- iii. Monitoring Requirements: PM10: Visible emissions, daily observations
(modified Method 22-like procedure, see Attachment 3)

c. Control Technology: Baghouse and caustic scrubber**II. Monitoring Approach****a. Indicator**

- i. Type Visible Emissions
- ii. Measurement Approach Visible emissions from the baghouse exhaust
will be monitored daily using (modified Method 22-like procedure, see Attachment 3)

b. Indicator Range

- i. Indicator Level No visible emissions
- ii. QIP Threshold The QIP threshold is five excursions in a
6-month reporting period

c. Performance Criteria

i.	Data	
	Representativeness	Measurements are made at the emission point and are indicative of good operation and maintenance of the baghouse and wet scrubber.
ii.	Verification of	
	Operational Status	NA
iii.	QA/QC Practices and Criteria	The observer will be educated on the general procedures (modified Method 22-like procedure, see Attachment 3) for determining the presence of visible emissions.
iv.	Monitoring Frequency and	
	Data Collection Procedure	A (modified Method 22-like procedure, see Attachment 3) observation will be performed daily when operational.

III. Rationale for Selection of Performance Indicator

Graftech selected visible emissions as a performance indicator for this control device. Experience indicates that given proper operation and maintenance, there should be no visible emissions when observed by individuals trained (but not necessarily certified) in (modified Method 22-like procedure, see Attachment 3) observations. The presence of visible emissions therefore indicates the possibility of a malfunction in the control device.

IV. Rationale for Selection of Indicator Level

Graftech selected no visible emissions when observed by an individual trained (but not necessarily certified) in (modified Method 22-like procedure, see Attachment 3) observations. No visible emission was selected because:

- ▶ It does not require qualitative assessment by the observer as to the degree of opacity
- ▶ Is clearly indicative of a potential malfunction of the control device

The selected QIP threshold for baghouse visible emissions is five excursions in a 6-month reporting period. This level is three percent of the total visible emissions observations. If the QIP threshold is exceeded in a semiannual reporting period, a QIP will be developed and implemented.

Sulfur Dioxide

I. Background

a. Emissions Unit

- i. Description: Carbon Brick Press #7
- ii. identification: BP2
- iii. Facility: GrafTech International Holding Inc.

b. Applicable Regulation, Emission Limit, and Monitoring Requirements

- i. Applicable Requirement: Permit Condition E16-2,
TAPCR 1200-03-14-.03(5)
- ii. Emission limits: Sulfur Dioxide: 7.3 lbs/hr
- iii. Monitoring Requirements: Second Stage pH

c. Control Technology: Caustic Scrubber

II. Monitoring Approach

a. Indicator 1

- i. Type pH
- ii. Measurement Approach pH of the scrubber second stage will be monitored once daily.

b. Indicator Range 1

- i. Indicator Level Between 9.0 and 13.0
- ii. QIP Threshold The QIP threshold is five excursions below the minimum level in a 6-month reporting period. A reading above the maximum are not considered excursions provided the meter probe is cleaned and recalibrated and the pH is reread for the day.

c. Performance Criteria 1

- | | | |
|------|---|---|
| i. | Data

Representativeness | Measurements are made in the scrubber reactor vessel indicating proper conditions for the desired chemical reaction. |
| ii. | Verification of

Operational Status | NA |
| iii. | QA/QC Practices and Criteria | The pH meter probe shall be cleaned weekly.

The pH meter shall be calibrated at a frequency in accordance with the manufacturer's specifications, other written procedures that provide an adequate assurance that the device is calibrated accurately, or at least weekly, whichever is more frequent, and shall be accurate to within +0.5 pH unit.. |
| iv. | Monitoring Frequency and

Data Collection Procedure | A pH reading will be taken daily in accordance with the manufacturer's instructions. |

d. Indicator 2

- | | | |
|-----|---------------------------------|---|
| i. | Type Scrubbing liquid flow rate | |
| ii. | Measurement Approach | The flow rate of the scrubbing liquid will be monitored once daily. |

e. Indicator Range 2

- | | | |
|-----|-----------------|---|
| i. | Indicator Level | Minimum flow of 80 gpm |
| ii. | QIP Threshold | The QIP threshold is five excursions below the minimum level in a 6-month reporting period. |

f. Performance Criteria 2

- | | | |
|----|--------------------------------|---|
| i. | Data

Representativeness | Measurements indicate delivery of reactants |
|----|--------------------------------|---|

for the desired chemical reaction.

- | | | |
|------|---|---|
| ii. | Verification of

Operational Status | NA |
| iii. | QA/QC Practices and Criteria | A flow reading will be taken and recorded

daily. |

III. Rationale for Selection of Performance Indicator

GrafTech selected second stage pH and scrubber liquid flow rate as performance indicators for this control device. Second stage pH was selected as an appropriate indicator of proper conditions for the desired chemical reaction. First stage conditions were not selected since the first stage is designed as a waste reduction feature (i.e., it is meant to remove any residual caustic in the scrubber liquid prior to disposal). Scrubber liquid flow rate was selected as an appropriate indicator that adequate reactants were being delivered to the scrubber to support the desired chemical reaction.

IV. Rationale for Selection of Indicator Level

Second Stage pH

Graftech selected an indicator range of 9.0 to 13.0 for the following reasons:

- ▶ A pH higher than 13.0 indicates that the instrumentation is out of calibration. The chemicals in use do not exceed this value.
- ▶ A pH lower than 9.0 in Stage 2 for an extended period of time will inhibit the Stage 2 chemical reactions as well as inhibit Stage 1 neutralization.

The selected QIP threshold is five excursions below the minimum threshold in a 6-month reporting period. A reading above the maximum is not considered excursions provided the meter probe is cleaned and recalibrated and the pH is reread for the day. Five excursions in a six month period is three percent of the total pH readings. If the QIP threshold is exceeded in a semiannual reporting period, a QIP will be developed and implemented.

Scrubber Liquid Flow Rate

GrafTech selected an indicator range of greater than 80 gpm since this was the minimum guaranteed flow rate during the initial compliance testing.

The selected QIP threshold is five excursions below the minimum threshold in a 6-month reporting period. Five excursions in a six month period is three percent of the total readings. If the QIP is exceeded in a semiannual reporting period, a QIP will be developed and implemented.