west virginia department of environmental protection

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ENGINEERING EVALUATION/FACT SHEET

B ACKGROUND INFORMATION

Application No.:	R13-3039A
Plant ID No.:	033-00001
Applicant:	GrafTech International Holdings Inc.
Facility Name:	Anmoore
Location:	Anmoore, Harrison County, WV
NAICS Code:	335991
Application Type:	Modification
Received Date:	July 28, 2015
Engineer Assigned:	Caraline Griffith
Fee Amount:	$2000.00
Date Received:	July 29, 2015
Complete Date:	August 14, 2015
Due Date:	November 13, 2015
Applicant Ad Date:	August 5, 2015
Newspaper:	The Exponent Telegram
UTM's:	Easting: 560.9 km Northing: 4,354.1 km Zone: 17
Description:	The application is for the removal of two (2) natural gas boilers rated at 15.5 mmBtu/hour each and replacement of one of them with a 12.902 mmBtu/hour natural gas fired boiler.

DESCRIPTION OF PROCESS

GrafTech operates four (4) natural gas fired boilers to produce steam for the Anmoore, West Virginia facility. Three of the four boilers are grandfathered with respect to NSPS and 45CSR13 permitting requirements.

In 2013, GrafTech replaced an 8.6 million Btu per hour boiler, designated as Boiler 301, with a 12.6 million Btu per hour boiler (R13-3039).

With this permit application GrafTech seeks to remove the two oldest boilers (308 and 309) and replace one of them with a CBEX Cleaver-Brooks 12.902 million Btu per hour natural

gas fired boiler. The new boiler will be designated as 308. The new boiler will not result in an increase in production for the facility.

SITE INSPECTION

The Anmoore Facility is an existing major source Title V Facility and is targeted for periodic compliance inspections. The last full on site compliance inspection was conducted on August 23, 2013 by Ms. Lou Ann Lee, an inspector assigned to the North Central Regional Office of the Compliance and Enforcement Section. Ms. Lee determined that the facility has being operating in compliance and received a rating of 30.

ESTIMATE OF EMISSION BY REVIEWING ENGINEER

The applicant supplied emissions estimates from the manufacturer and used emissions factors from Chapters 1.4 (natural gas fired) of AP-42 to estimate emissions from the new boiler. The emissions listed in the following table are the manufacturer's estimates:

Table #1 – Potential Emissions from the New Boiler (Boiler 308)

Pollutant	Hourly Rate (lb/hr)	Annual Rate (TPY)
Particulate Matter (PM) /Particulate Matter Less Than 10 microns (PM_{10})/Particulate Matter less than 2.5 microns ($PM_{2.5}$)	0.10	0.44
Sulfur Dioxide (SO_2)	0.01	0.03
Oxides of Nitrogen (NO_x)	1.28	5.65
Carbon Monoxide (CO)	1.08	4.75
Volatile Organic Compounds (VOCs)	0.07	0.31
Total Hazardous Air Pollutants (HAPs)	0.061	0.26
Carbon Dioxide Equivalent (CO_2e)	1,548	6,780

REGULATORY APPLICABLILITY

45CSR2 TO PREVENT AND CONTROL PARTICULATE AIR POLLUTION FROM COMBUSTION OF FUEL IN INDIRECT HEAT EXCHANGERS

The applicant is subject to the visible emission standard and weight emission standard for particulate matter set forth in 45 CSR2 Sections 3 and 4, respectively, because the CBEX Cleaver-Brooks boiler (Boiler 308) is more than 10 MMBtu/hr and must show compliance by using visible emission measurements in Method 9 of 40CFR60 or by using measurements from continuous monitoring systems approved by the director and by following all rules and standards for Type 'b' fuel burning units. The applicant must also meet all testing, monitoring, recordkeeping, and reporting requirements as requested in Section 8. This boiler is subject to the 10% opacity based on a six minute block average. Compliance will be demonstrated by complying with permit requirements. The applicant is using natural gas as fuel; therefore, meeting the 10% opacity requirements should not be a problem.

45CSR4 TO PREVENT AND CONTROL THE DISCHARGE OF AIR POLLUTANTS INTO THE OPEN AIR WHICH CAUSES OR CONTRIBUTES TO AN OBJECTIONABLE ODOR

The applicant is subject to this rule. It states that an odor that is deemed objectionable when in the opinion of a duly authorized representative of the Air Pollution Control Commission (Division of Air Quality), based upon their investigations and complaints, such odor is objectionable. The applicant does not foresee any objectionable odors being present at this site now or in the future.

45CSR10 TO PREVENT AND CONTROL AIR POLLUTION FROM THE EMISSION OF SULFUR OXIDES

The CBEX Cleaver-Brooks boiler (Boiler 308) has a maximum design heat input of more than 10 MMBtu/hr and is therefore subject to all applicable sulfur dioxide weight emission limitations, registration and permitting. However, because this boiler is natural gas-fired, it is exempt from section 8 (Testing) of this rule.

45CSR13 PERMITS FOR CONSTRUCTION, MODIFICATION, RELOCATION AND OPERATION OF STATIONARY SOURCES OF AIR POLLUTANTS, NOTIFICATION REQUIREMENTS, ADMINISTRATIVE UPDATES, TEMPORARY PERMITS, GENERAL PERMITS, PERMISSION TO COMMENCE CONSTRUCTION, AND PROCEDURES FOR EVALUATION

Graftech has demonstrated compliance with 45CSR13 by submitting a complete modification permit application, placing a legal advertisement in *The Exponent* Telegram on August 5, 2015, and paying the applicable fees.

45CSR14 PERMITS FOR CONSTRUCTION AND MAJOR MODIFICATION OF MAJOR STATIONARY SOURCES OF AIR POLLUTION FOR THE PREVENTION OF SIGNIFICANT DETERIORATION

The Anmoore Facility is a major source because it emits or has the potential to emit 250 TPY or more of any regulated NSR pollutant. The facility does not meet the definition of a major modification as defined in § 2.40 because this change does not result in a significant increase in emissions of any one regulated pollutant, and nor does it result in a significant net increase in emissions for the major source.

45CSR22 AIR QUALITY MANAGEMENT FEE PROGRAM

The applicant has paid the $1,000 application fee and the $1,000 NSPS fee as required by section 3.4.b of this rule because they are subject to NSPS requirements as described in this regulatory review section.

45CSR30 REQUIREMENTS FOR OPERATING PERMITS

As a result of the additional equipment to be installed at Graftech's Anmoore Facility as described within the 45CSR13 sections above the process changes will be classified as a significant modification to the Title V Permit.

40CFR60, SUBPART Dc STANDARDS OF PERFORMANCE FOR SMALL INDUSTRAIL-COMMERCIAL-INSTITUTIONAL STEAM GENERATING UNITS

The facility is subject to this rule. However, the only portion of this rule that deals directly with a natural gas fired boiler is the reporting and recordkeeping section, which states that monthly records be kept of natural gas usage for each boiler.

TOXICITY OF NON-CRITERIA REGULATED POLLUTANTS

This replacement of Boiler 301 will not emit any pollutants that aren't already being emitted by another emission source at the facility. Therefore, no information about the toxicity of the hazardous air pollutants (HAPs) is presented in this evaluation.

AIR QUALITY IMPACT ANALYSIS

The writer deemed that an air dispersion modeling study or analysis was not necessary, because the proposed modification does not meet the definition of a major modification of a major source as defined in 45CSR14.

MONITORING OF OPERATIONS

The writer recommends the following monitoring requirements:

- Facility total natural usage for each month. This is required by Rule 2, 10, and Subpart Dc.

RECOMMENDATION TO DIRECTOR

The information provided in the permit application indicates the proposed modification of the facility will meet all the requirements of the applicable rules and regulations when operated in accordance with the permit application. Therefore, the writer recommends granting GrafTech a Rule 13 modification permit for their graphite products manufacturing facility located in Anmoore, WV.

Caraline Griffith
Permit Engineer

Oct. 20, 2015
Date