



October 24, 2016

Mr. William F. Durham, Director
West Virginia Department of Environmental Protection
Division of Air Quality
601 57th Street S.E.
Charleston, West Virginia 25304

**Re: Braskem America, Inc. Neal Plant – Kenova, West Virginia, Facility ID No. 099-00010
Title V Operating Permit Renewal Application**

Dear Mr. Durham:

Braskem America, Inc. (Braskem) currently operates a polypropylene production facility located in Kenova, West Virginia; the facility is commonly referred to as the Neal Plant. The facility currently operates under Title V Operating Permit R30-09900010-2012 (MM03), issued April 24, 2012 (most recently modified September 15, 2014), by the West Virginia Department of Environmental Protection (WVDEP). The current Title V Operating Permit expires April 24, 2017; therefore, Braskem is required to submit a Title V Operating Permit renewal application by October 24, 2016. With this application, Braskem is requesting a renewal of the Title V Operating Permit for the Neal Plant in accordance with Title 45, Legislative Rule of the Division of Air Quality (DAQ) Series (CSR) 30-4.1.a.3.

Should you have any questions concerning the information provided herein, please contact Mr. Bernie Marshall, Lead Environmental Engineer, at (304) 453 - 5926.

Sincerely,
BRASKEM AMERICA, INC.

Jeffrey Blatt
Facilities Manager

Attachments (2 Confidential Versions – each with a CD and 2 Public Versions – each with a CD)



October 24, 2016
Mr. William F. Durham

bcc: Mr. Bernie Marshall (Braskem) w/o Attachments
Mr. Gary Rabik (Braskem) w/o Attachments
Mr. Daniel Wheeler (Trinity)



BRASKEM AMERICA, INC. - NEAL PLANT
Kenova, West Virginia



Title V Operating Permit Renewal Application

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October 2016

Project 163601.0147



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TABLE OF CONTENTS

1. APPLICATION OVERVIEW	1-1
1.1. Introduction	1-1
1.2. Brief Facility Description	1-2
1.2.1. Process Area 10 – Propylene and Propane Storage	1-2
1.2.2. Process Area 11 - Distillation	1-2
1.2.3. Process Area 15 – Nitrogen	1-2
1.2.4. Process Area 16 – Railcar	1-2
1.2.5. Process Area 91 – Polymerization	1-2
1.2.6. Process Area 8 – Product Finishing and Shipping (FNS)	1-2
1.2.7. OSBL Flare and ISBL Flare	1-3
1.2.8. Natural Gas-Fired Boilers	1-3
1.3. Updates to Title V Operating Permit	1-3
1.4. Organization of Application	1-4
2. REGULATORY APPLICABILITY	2-1
2.1. New Source Review Classification	2-1
2.2. Title V Operating Permit Program	2-2
2.3. New Source Performance Standards	2-2
2.3.1. NSPS DDD – Standards of Performance for Volatile Organic Compound (VOC) Emissions from the Polymer Manufacturing Industry	2-2
2.3.2. NSPS VV – Standards of Performance for Equipment Leaks of VOC in the Synthetic Organic Chemicals Manufacturing Industry	2-3
2.3.3. NSPS VVa – Standards of Performance for Equipment Leaks of VOC in the Synthetic Organic Chemicals Manufacturing Industry	2-4
2.3.4. NSPS Dc – Standards of Performance for Small Industrial-Commercial Steam Generating Units	2-4
2.3.5. NSPS IIII – Standards of Performance for Stationary Compression Ignition Internal Combustion Engines	2-4
2.3.6. NSPS JJJJ – Standards of Performance for Stationary Spark Ignition Internal Combustion Engines	2-5
2.4. National Emission Standards for Hazardous Air Pollutants	2-5
2.4.1. 40 CFR 63, Subpart FFFF – National Emission Standards for Hazardous Air Pollutants: Miscellaneous Organic Chemical Manufacturing	2-5
2.4.2. 40 CFR 63, Subpart EEEE – National Emission Standards for Hazardous Air Pollutants: Organic Liquids Distribution	2-5
2.4.3. 40 CFR 63, Subpart VVVVVV – National Emission Standards for Hazardous Air Pollutants for Chemical Manufacturing Area Sources	2-6
2.4.4. 40 CFR 63, Subpart ZZZZ – National Emission Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines (RICE)	2-6
2.5. Acid Rain Regulations	2-6
2.6. Compliance Assurance Monitoring	2-7
2.7. Chemical Accident Prevention	2-7
2.8. Stratospheric Ozone Protection Regulations	2-7
2.9. West Virginia SIP Regulations	2-7
2.9.1. 45CSR2 – To Prevent and Control Particulate Matter Air Pollution From Combustion of Fuel in Indirect Heat Exchangers	2-8
2.9.2. 45CSR6 – To Prevent and Control Air Pollution from Combustion of Refuse	2-8
2.9.3. 45CSR7 – To Prevent and Control Particulate Matter Air Pollution from Manufacturing Processes and Associated Operations	2-9

2.9.4. 45CSR10 – To Prevent and Control Air Pollution from the Emission of Sulfur Oxides.....	2-9
2.9.5. 45CSR13 – Permits for Construction, Modification, Relocation and Operation of Stationary Sources of Air Pollutants, Notification Requirements, Administrative Updates, Temporary Permits, General Permits, and Procedures for Evaluation	2-9
2.9.6. 45CSR16 – Standards of Performance for New Stationary Sources.....	2-9
2.9.7. 45CSR21 – Regulation to Prevent and Control Air Pollution from the Emission of VOC	2-10
2.9.8. 45CSR22 – Air Quality Management Fee Program	2-10
2.9.9. 45CSR28 – Air Pollutant Emissions Banking and Trading	2-10
2.9.10. 45CSR29 – Rule Requiring the Submission of Emission Statements for VOC Emissions and Oxides of Nitrogen Emissions.....	2-10
2.9.11. 45CSR31 – Confidential Information.....	2-10
2.9.12. 45CSR34 – Emission Standards for Hazardous Air Pollutants.....	2-2

3. WVDAQ APPLICATION FOR A TITLE V OPERATING PERMIT RENEWAL	3-1
ATTACHMENT A: AREA MAP	A
ATTACHMENT B: PLOT PLAN	B
ATTACHMENT C: PROCESS FLOW DIAGRAMS	C
ATTACHMENT D: EQUIPMENT TABLE	D
ATTACHMENT E: EMISSION UNIT FORMS	E
ATTACHMENT G: AIR POLLUTION CONTROL DEVICE FORMS	G
APPENDIX A. PTE CALCULATIONS	AP A
APPENDIX B. CONFIDENTIALITY CLAIMS	AP B

1. APPLICATION OVERVIEW

1.1. INTRODUCTION

Braskem America, Inc. (Braskem) owns and operates a polypropylene resin manufacturing facility located near Kenova, WV (Neal Plant). The facility currently operates under Title V Operating Permit R30-09900010-2012, issued April 24, 2012 (most recently modified September 15, 2014), by the West Virginia Department of Environmental Protection (WVDEP). The current Title V Operating Permit expires April 24, 2017; therefore, Braskem is required to submit a Title V Operating Permit renewal application by October 24, 2016. With this application, Braskem is requesting a renewal of the Title V Operating Permit for the Neal Plant in accordance with Title 45, Legislative Rule of the Division of Air Quality (DAQ) Series (CSR) 30-4.1.a.3.

1.2. BRIEF FACILITY DESCRIPTION

The Neal Plant is a polypropylene resin manufacturing facility. The process to produce polypropylene resin includes a feed purification system, a polymerization processes, and a product finishing and shipping area. The Neal Plant's process includes a catalyst preparation system, two reaction loops, a material recovery step, and product extrusion process. The Neal Plant also operates a number of boilers to supply steam to various areas of the facility. A complete and detailed facility-wide process description was included in the January 2002 Title V Operating Application Update. A brief summary of each of these operations is provided below. Please refer to Attachment D for a comprehensive list of the emission units in operation at the facility.

1.2.1. Process Area 10 - Propylene and Propane Storage

Redacted Version - Claim of Confidentiality.

1.2.2. Process Area 11 - Distillation

Redacted Version - Claim of Confidentiality.

1.2.3. Process Area 15 - Nitrogen

Redacted Version - Claim of Confidentiality.

1.2.4. Process Area 16 - Railcar

Redacted Version - Claim of Confidentiality.

1.2.5. Process Area 91 - Polymerization

Redacted Version - Claim of Confidentiality.

1.2.6. Process Area 8 - Product Finishing and Shipping (FNS)

Redacted Version - Claim of Confidentiality.

1.2.7. OSBL Flare and ISBL Flare

The OSBL Flare manages the continuous fugitive equipment leaks and non-fugitive VOC emissions from Process Areas 10, 11, 15, and 16, and some emissions from Process Area 91. The ISBL Flare, while primarily an emergency flare, does manage some of the intermittent non-fugitive VOC emissions from Process Area 91. Emissions due to the maintenance of equipment are also vented to the OSBL and ISBL Flares. In the event of an emergency, the process equipment may release to the appropriate flare. Startup, shutdown, and malfunction emissions, including emergency emissions, are not included in VOC loading limits or emission estimates.

1.2.8. Natural Gas-Fired Boilers

Historically, the Neal Plant has utilized B600, a 77 MMBtu/hr natural gas fired boiler, B603, a 96.72 MMBtu/hr temporary natural gas fired boiler, and B604, a 99.66 MMBtu/hr natural gas fired boiler. On July 1, 2013, Braskem shut down B603 and removed the unit on August 27, 2013. Therefore, B603 is not included in the renewal application. Braskem will be submitting an application for a Class I Administrative Update to the current R13-1830 permit in accordance with 45CSR13-4.2.a.6 to reflect the permanent removal of the B603.

1.3. UPDATES TO TITLE V OPERATING PERMIT

As discussed above Braskem has permanently shut down B603 (see Table 1-1). Therefore, this Title V operating permit renewal application does not include B603. As such, Braskem requests that all requirements associated with B603 be removed from the Title V Operating Permit.

Table 1-1. Shutdown Emission Units

Emission Unit ID	Emission Point ID	Emission Unit Description	Control Device
B603	73E	Boiler #3 - Natural Gas Fired Steam Boiler	Flue-Gas Recirculation

Additionally, Braskem requests a revision to Condition 5.2.1 of the Title V Operating Permit to remove the stipulation that consecutive visible emissions checks may be no more than 45 days apart given that the requirement of 45CSR7 to perform a monthly visible emission check does not restrict the maximum number of days between two consecutive readings.

Moreover, Braskem requests a revision to Condition 6.1.8 of the Title V Operating Permit to increase the hourly and annual VOC emission rates based on the revised AP-42 Chapter 13.5 (i.e., Industrial Flare) emission factor of 0.57 lb/MMBtu (previously, 0.14 lb/MMBtu). Braskem requests that the hourly and annual VOC emission rates be updated to 108.57 pph and 29.99 tpy, respectively. Braskem will include this request as a part of the Class I Administrative Update that will be submitted for the shutdown of the B603 (as noted in Section 1.2.8).

Lastly, during the development of this renewal application, Braskem identified an uncontrolled vent which does not meet the definition of stationary source in 45CSR13-2.24 and is therefore exempt from construction permitting requirements. However, it is considered a significant emission unit under the Title V operating permit program. As such, Braskem requests inclusion of the DS503 vent as a significant emission unit in the Title V Operating Permit. Applicability of NSPS DDD to this vent has been addressed in Section 2.3.1.

1.4. ORGANIZATION OF APPLICATION

This Title V Operating Permit renewal application contains the following elements:

- > Section 2: Regulatory Applicability
- > Section 3: WVDAQ Application Forms
- > Attachment A: Area Map
- > Attachment B: Plot Plan
- > Attachment C: Process Flow Diagrams
- > Attachment D: Equipment Table
- > Attachment E: Emission Unit Forms
- > Attachment G: Air Pollution Control Device Forms
- > Appendix A: PTE Calculations
- > Appendix B: Confidentiality Claims
- > Appendix B.1 Redacted Versions

2. REGULATORY APPLICABILITY

A key objective of a Title V operating permit application is to compile all applicable Clean Air Act derived requirements into one document. The requirements can be categorized as: (1) emission limits and work practice standards; and (2) testing, monitoring, recordkeeping, and reporting requirements. To compile a list of the requirements applicable to a facility, it is first necessary to determine which Federal and State air regulations apply to the facility as a whole, or to individual emission units. This section documents the applicability determinations made for Federal and State air quality regulations. Regulations potentially applicable to the Neal Plant are detailed in Section 2 in the “Applicable Requirements” forms provided by WVDEP.

Additional details on applicability for several regulations are presented in this section. Specifically, the remainder of this section summarizes the air permitting requirements and key air quality regulations that apply to the operation of the Neal Plant. Applicability or non-applicability of the following regulatory programs is addressed:

- > New Source Review (NSR) Permitting;
- > Title V of the 1990 Clean Air Act Amendments;
- > New Source Performance Standards (NSPS);
- > National Emission Standards for Hazardous Air Pollutants (NESHAP);
- > Acid Rain Program;
- > Compliance Assurance Monitoring (CAM);
- > Risk Management Plan (RMP);
- > Stratospheric Ozone Protection; and
- > West Virginia State Implementation Plan (SIP) Regulations

This review is presented to supplement and/or add clarification to the information provided in the WVDEP Title V application forms which fulfill the requirement to include citations and descriptions of applicable statutory and administrative code requirements. In addition to providing a summary of applicable requirements, this section of the application also provides non-applicability determinations for certain regulations, allowing WVDEP to confirm that identified regulations are not applicable to the Neal Plant. Note that explanations of non-applicability are limited to those regulations for which there may be some question of applicability specific to the operations at the Neal Plant. Regulations that are categorically non-applicable are not discussed.

2.1. NEW SOURCE REVIEW CLASSIFICATION

Federal construction permitting programs regulate new sources of pollutants under Prevention of Significant Deterioration (PSD) and Non-Attainment New Source Review (NANSR). Chemical process plants are classified as one of the 28 listed source categories in Title 40 of the Code of Federal Regulations (CFR), Section 52.21(b)(1)(i)(a) with a 100 ton per year (tpy) “major” source PSD threshold. The Neal Plant is an existing “major” source with regard to PSD with facility-wide emissions of at least one PSD pollutant greater than 100 tpy. In addition, the Neal Plant is located in Wayne County, which was, and continues to be, “in attainment” or “unclassifiable” with the National Ambient Air Quality Standards (NAAQS) for all criteria pollutants (see 40 CFR 81.349). Therefore, any physical change or change in the method of operation of the facility that would result in a significant net emission increase of a PSD-pollutant would require PSD review prior to the modification.

The applicability of NANSR is evaluated for proposed modification projects that result in an emission increase of a criteria pollutant for which the area is not in attainment with the NAAQS. Because Wayne County has been designated as “in attainment” or “unclassifiable” for all regulated NSR pollutants, the Neal Plant does not need to evaluate the applicability of NANSR.

2.2. TITLE V OPERATING PERMIT PROGRAM

The requirements of 40 CFR 70 establish the federal Title V operating permit program. West Virginia has incorporated the provisions of this federal program as part of SIP under 45CSR30. The major source thresholds with respect to the West Virginia Title V operating permit program regulations are 10 tons per year (tpy) of a single hazardous air pollutant (HAP), 25 tpy of any combination of HAPs, and 100 tpy of all other regulated pollutants. The potential emissions of at least one regulated pollutant exceed the corresponding threshold(s) at this facility. Therefore, the Neal Plant is classified as a major source for Title V purposes. As described in Section 1.1, Braskem is submitting this timely and complete renewal application by the submission deadline of October 24, 2016 (i.e., six months prior to the expiration of the current Title V Operating Permit) in accordance with 45CSR30-4.1.a.3.

2.3. NEW SOURCE PERFORMANCE STANDARDS

The federal NSPS require new, modified, or reconstructed sources to control emissions to the level that is achievable by the best demonstrated technology as specified in the applicable provisions of the rule. The following summary describes the applicability and non-applicability of NSPS subparts relevant to the Neal Plant.

2.3.1. NSPS DDD – Standards of Performance for Volatile Organic Compound (VOC) Emissions from the Polymer Manufacturing Industry

The raw material preparation, polymerization reaction, material recovery, product finishing, and product storage activities at the Neal Plant remain subject to the provisions of 40 CFR 60, Subpart DDD (NSPS DDD). As described in consent decree CO-R21-97-44 issued November 12, 1997 (CO-R21-97-44), Braskem achieves compliance with the requirements of 45CSR21 through compliance with NSPS DDD. The applicable emission standards for continuous and intermittent process vent streams at polypropylene facilities are provided in 40 CFR 60.562-1(a)(1) and 60.562-1(a)(2), respectively. Individual continuous vent streams that have uncontrolled emissions of less than their respective Calculated Threshold Emissions (CTE) are exempt from the control requirements of 40 CFR 60.562-1(a)(1) according to 40 CFR 60.562-1(a)(1)(ii). Therefore, VOC emissions from the FNS area, the DS503 vent, as well as the uncontrolled emissions from the analyzers¹ are exempt from control requirements.

For all other continuous and intermittent process vent streams, Braskem utilizes the control options provided in 40 CFR 60.562-1(a)(1)(i)(C) and 60.562-1(a)(2)(i). Therefore, non-exempt process vent streams are controlled utilizing the OSBL and ISBL Flares. The OSBL Flare controls both continuous and intermittent vent streams while the ISBL Flare controls only intermittent vent streams.

Since the OSBL Flare is used to comply with continuous vent stream standards provided in 40 CFR 60.562-1(a)(1)(i)(C), it is required to meet the provisions of 40 CFR 60.18. Furthermore,

¹ Braskem controls back purges as well as the speed loops associated the facility analyzers. Only the sample streams to the analyzers are uncontrolled.

40 CFR 60.562-1(a)(2)(i)(A) through 40 CFR 60.562-1(a)(2)(i)(C) specify the compliance provisions for the ISBL Flare. Emergency vent streams, as defined in 40 CFR 60.561, at the Neal Plant are exempt from the requirements of 40 CFR 60.562-1(a)(2).²

In addition to process vent requirements, NSPS DDD contains leak detection and repair (LDAR) standards in 40 CFR 60.562-2, which are discussed in the 40 CFR 60, Subpart VV (NSPS VV) section below.

Braskem demonstrates compliance with the NSPS DDD process vent requirements, include flare provisions, via the monitoring requirements of 40 CFR 60.563(a)(2), 60.563(b)(2), 60.563(c), 60.563(d), and with the recordkeeping and reporting requirements of 40 CFR 60.565(a)(3), (a)(5), (b)(2), (e), (g), (h), and (k). No additional performance testing is required for either flare.

Additionally, Braskem has determined that the following material storage tanks are not subject to the requirements of NSPS DDD since they do not meet the definitions of any of the affected facilities provided in 40 CFR 60.560(a)(1). This non-applicability determination refers to the following tanks: F-698, D103, D105, D106A, D106B, D107, D110A, D110B, F-8809A, F-8809B, F291, H-9209A tank, H-9209B tank, F1000, F290, F704, and F707. Please see Item 19 of the Title V renewal application general form for additional information.

2.3.2. NSPS VV - Standards of Performance for Equipment Leaks of VOC in the Synthetic Organic Chemicals Manufacturing Industry

The Neal Plant is not a synthetic organic chemical manufacturing industry (SOCMI) facility; therefore, the Neal Plant is not directly subject to NSPS VV. However, Areas 11, 15, and 91 of the Neal Plant are required to comply with NSPS VV standards in 40 CFR 60.482-1 through 40 CFR 60.482-10 in accordance with 40 CFR 60.562-2(a) of NSPS DDD. Additionally, consent decree CO-R21-97-44 extends the LDAR requirements of NSPS DDD and NSPS VV to Areas 10 and 16. Since the process streams in Area 8 contain less than ten (10)-percent VOC and the majority of such streams are in neither gas nor liquid service, the LDAR requirements of NSPS DDD and NSPS VV do not apply to Area 8.

NSPS VV standards include work practices and monitoring requirements for certain LDAR equipment known to contribute to fugitive VOC emissions (e.g., valves, pumps, and compressors). As provided in 40 CFR 60.562-2(b), the Neal Plant may elect to comply with the alternative standards for valves provided in 40 CFR 60.483-1 and 40 CFR 60.483-2. In addition to these work practice standards, Braskem utilizes the OSBL Flare to control emissions from LDAR equipment. Therefore, Braskem complies with the control device requirements provided in 40 CFR 60.482-10(d), which requires compliance with the general requirements for flares provided in 40 CFR 60.18.

Braskem will continue to comply with the work practice standards and monitoring, recordkeeping, and reporting requirements of NSPS VV.

² The general standards and maintenance requirements provided in 40 CFR 60.11(c) specify that opacity standards (e.g., those provided for the OSBL Flare and ISBL Flare in 40 CFR 60.18(c)(1) and 40 CFR 60.562-1(a)(2)(i)(A), respectively) do not apply during periods of startup, shutdown, or malfunction. Additionally, emissions during SSM events in excess of the level of the applicable emission limit are not considered a violation of the applicable emission limit per 40 CFR 60.8(c).

2.3.3. NSPS VVa -Standards of Performance for Equipment Leaks of VOC in the Synthetic Organic Chemicals Manufacturing Industry

As stated above, the Neal Plant is not a SOCOMI facility; therefore, the Neal Plant is not directly subject to 40 CFR 60, Subpart VVa (NSPS VVa). Additionally, NSPS DDD does not incorporate NSPS VVa. Therefore, the Neal Plant is not required to comply with the provisions of NSPS VVa. Please see Item 19 of the Title V renewal application general form for additional information.

2.3.4. NSPS Dc - Standards of Performance for Small Industrial-Commercial Steam Generating Units

The affected source under 40 CFR 60, Subpart Dc (NSPS Dc) is each steam generating unit for which construction, modification, or reconstruction is commenced after June 9, 1989, and that has a maximum design heat input capacity of 100 million British thermal units per hour (MMBtu/hr) or less, but greater than or equal to 10 MMBtu/hr. NSPS Dc contains emission standards for SO₂ and PM.

As provided in 40 CFR 60.41c, a steam-generating unit is defined as:

“...a device that combusts any fuel and produces steam or heats water or any other heat transfer medium. This term includes any duct burner that combusts fuel and is part of a combined cycle system. This term does not include process heaters as defined in this subpart.”

NSPS Dc will only be applicable to B064 at the Neal Plant.

A non-applicability determination with respect to 40 CFR 60, Subpart Dc was made pertaining to B600, a 77 MMBtu/hr natural gas-fired boiler constructed in 1961 before the 1989 applicability date. In 1995, a low NOX burner was added to B600; however, the addition is not considered a modification under NSPS since it did not result in an increase of air pollutants for which NSPS Dc provides standards under 40 CFR 60.42c and 40 CFR 60.43c. [Title V Permit Condition 3.7.2.a.]

A non-applicability determination with respect to 40 CFR 60, Subpart Dc was made for the H-081 and H-082 boilers since the rated capacity for each boiler is less than the applicability threshold of 10 MMBtu/hr provided in 40 CFR 60.40c(a). [Title V Permit Condition 3.7.2.b.]

B604 is subject to general recordkeeping and reporting requirements contained in 40 CFR 60.48c. These provisions require Braskem to notify WVDAQ in writing of the dates of construction and start-up. Additionally, Braskem maintains monthly records of the amount of natural gas combusted in B604 in accordance with 40 CFR 60.48c(g)(2).

2.3.5. NSPS IIII - Standards of Performance for Stationary Compression Ignition Internal Combustion Engines

According to 40 CFR 60.4200(a)(2), owners and operators of compression-ignition internal combustion engines (CI ICEs) constructed after July 11, 2005, must comply with the standards of 40 CFR 60, Subpart IIII (NSPS IIII).

Braskem installed each CI ICE (i.e., EG-1, EG-2, and EG-3) before July 11, 2005. Therefore, these CI ICEs do not meet the applicability provisions of NSPS IIII and are not subject to NSPS IIII.

2.3.6. NSPS JJJJ - Standards of Performance for Stationary Spark Ignition Internal Combustion Engines

Affected sources under 40 CFR 60, Subpart JJJJ (NSPS JJJJ) include spark-ignition internal combustion engines. The provisions of 40 CFR 60.4248 define spark-ignition as related to gasoline-fueled engines or any other type of engine with a spark plug. The ICEs installed at the Neal Plant are compression-ignition ICEs; therefore, they are not subject to NSPS JJJJ.

2.4. NATIONAL EMISSION STANDARDS FOR HAZARDOUS AIR POLLUTANTS

Maximum achievable control technology (MACT)-based NESHAPs (located in 40 CFR 63) require sources that are “major” for HAPs to control emissions to the level achievable by the best demonstrated technology as specified in the applicable provisions. A major source is defined in 40 CFR 63.2 as:

“...any stationary source or group of stationary sources located within a contiguous area and under common control that emits or has the potential to emit considering controls, in the aggregate, 10 tons per year or more of any hazardous air pollutant or 25 tons per year or more of any combination of hazardous air pollutants...”

Generally available control technology (GACT)-based NESHAPs (located in 40 CFR 63) require area (i.e., non-major) sources to control emissions to the level achievable by the use of generally available control technologies or management practices to reduce emissions of HAPs.

Although the Neal Plant has been historically classified as a major source with the potential to emit more than ten (10) tpy of a single HAP and 25 tpy of combined HAPs, the permanent shutdown of B602 in 2010 reduced potential emissions of HAPs to levels below the major source thresholds (refer to Appendix A for HAP PTE calculations). As such, the Neal Plant became an area source (i.e., non-major source) of HAPs since the shutdown of B602.

Braskem has evaluated the potential applicability of the GACT requirements for area sources and has determined that none of these subparts trigger any additional regulatory applicability for the Neal Plant.

2.4.1. 40 CFR 63, Subpart FFFF - National Emission Standards for Hazardous Air Pollutants: Miscellaneous Organic Chemical Manufacturing

Braskem is not subject to the standards and provisions in the miscellaneous organic NESHAP (MON) provided in 40 CFR 63, Subpart FFFF since the Neal Plant became an area source of HAPs upon the permanent shutdown of B602. As described in 40 CFR 63.2435(a), 40 CFR 63, Subpart FFFF applies only to miscellaneous organic chemical manufacturing process units (MCPUs) at major sources of HAP emissions. Please note, historically, the Neal Plant has not been subject to the standards and provisions in 40 CFR 63, Subpart FFFF as the only major source of HAP emissions was B602 which is considered ancillary equipment. Per 40 CFR 63.2550, ancillary equipment is not part of an MCU. For additional information, please refer to the May 19, 2004 MON non-applicability letter from Jim Fain (Sunoco) to Jesse Hanshaw (WVDAQ).

2.4.2. 40 CFR 63, Subpart EEEE - National Emission Standards for Hazardous Air Pollutants: Organic Liquids Distribution

Braskem is not subject to the standards and provisions for organic liquids distribution (OLD) operations provided in 40 CFR 63, Subpart EEEE since the Neal Plant became an area source of HAPs upon the permanent shutdown of B602. As described in 40 CFR 63.2334(a), 40 CFR 63, Subpart EEEE applies only to OLD operations at major sources of HAP emissions. Please note, historically, the Neal Plant has not been subject

to the standards and provisions in 40 CFR 63, Subpart EEEE as the only major source of HAP emissions was B602. Additionally, the liquid materials handled and processed at the facility do not contain organic HAPs in concentrations of five (5) percent by weight or greater as determined according to the procedures specified in 40 CFR 63.2354(c). Therefore, the Neal Plant does not meet the definition of an OLD operation in 40 CFR 63.2406.

2.4.3. 40 CFR 63, Subpart VVVVVV - National Emission Standards for Hazardous Air Pollutants for Chemical Manufacturing Area Sources

The Neal Plant does not use as feedstock, generate as a byproduct, or produce as product in the chemical manufacturing process unit any of the HAPs listed in Table 1 of 40 CFR 63, Subpart VVVVVV (GACT 6V). Ancillary equipment (e.g., boilers) is not considered part of the chemical manufacturing process unit. Therefore, the Neal Plant is not subject to GACT 6V.

2.4.4. 40 CFR 63, Subpart ZZZZ - National Emission Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines (RICE)

In accordance with 40 CFR 63.6590(a)(1)(iii), the fire pumps and water intake pump at the Neal Plant (H9202A, H9202B, and H516) are subject to the requirements of 40 CFR 63, Subpart ZZZZ (RICE MACT) for existing emergency CI engines at an area source given that the associated internal combustion engines (EG-1, EG-2, and EG-3) meet the definition of emergency stationary reciprocating internal combustion engines (i.e., these pumps are operated only during emergency situations and for required testing and maintenance) and were built before 2006. These engines at the Neal Plant are covered under a G60-C permit.

RICE MACT requires the following for an existing engine at an area source:

- > Oil and filter change every 500 hours of operation or annually, whichever comes first
- > Air cleaner inspection every 1,000 hours of operation or annually, whichever comes first, and replacement as necessary
- > Inspection of all hoses and belts every 500 hours of operation or annually, whichever comes first, and replacement as necessary
- > Maintain a log for the date of each oil/filter change and inspection
- > Minimize idle time during startup to less than 30 minutes
- > Install a non-resettable hour meter
- > Maintain records of hours and purpose of operation

Braskem will continue to comply with all applicable requirements of RICE MACT for the three emergency engines.

2.5. ACID RAIN REGULATIONS

Title IV (40 CFR 72 *et seq.*) of the Clean Air Act Amendments of 1990 established the Acid Rain Program to substantially reduce SO₂ and NO_x emissions from electric utility plants. Affected units are specifically listed in Tables 1 and 2 of 40 CFR 73.10 under Phase I and Phase II of the program. Under Phase III implementation, the Acid Rain Program applies to fossil fuel-fired combustion sources that drive generators for the purposes of generating electricity for sale. The Neal Plant is not a listed source in Tables 1 or 2 of 40 CFR 73.10, nor does the facility generate electricity. Accordingly, all subparts of the Acid Rain Program are categorically not applicable to the Neal Plant.

2.6. COMPLIANCE ASSURANCE MONITORING

Under the CAM provisions of 40 CFR 64, facilities are required to prepare and submit monitoring plans for certain emission units with the application for the first renewal of the Title V Operating Permit. The CAM Plans provide an on-going and reasonable assurance of compliance with emission limits. Under the general applicability criteria, this regulation only applies to emission units that use a control device to achieve compliance with an emission limit and whose pre-controlled emission levels exceed the major source thresholds under the Title V permitting program.

Since neither B604, the only new emission unit installed since the most recent renewal, nor the DS503 vent exhibit uncontrolled emissions greater than 100 tons per year even without the flue gas recirculation system for B604, Braskem has concluded that a CAM analysis is not required as part of this renewal application.

2.7. CHEMICAL ACCIDENT PREVENTION

Risk Management Plan (RMP) requirements are incorporated in the Neal Plant's Title V operating permit per Condition 3.1.9. According to Condition 3.1.9,

Should this stationary source, as defined in 40 C.F.R. § 68.3, become subject to Part 68, then the owner or operator shall submit a risk management plan (RMP) by the date specified in 40 C.F.R. § 68.10 and shall certify compliance with the requirements of Part 68 as part of the annual compliance certification as required by 40 C.F.R. Part 70 or 71.

[40 C.F.R. 68]

The Neal Plant is subject to the RMP provisions for propane and propylene. Per 40 CFR 68.190, sources subject to RMP provisions are required to update and resubmit RMPs at least every 5 years following the initial submittal. The Neal Plant is in compliance with all requirements of 40 CFR 68.

2.8. STRATOSPHERIC OZONE PROTECTION REGULATIONS

The requirements provided in Title VI of the Clean Air Act, entitled Protection of Stratospheric Ozone, are contained in 40 CFR 82. Because Braskem maintains, services, or disposes appliances utilizing Class I or Class II ozone depleting substances, 40 CFR 82 Subpart F, *Recycling and Emissions Reduction*, applies to such activities at the Neal Plant. Subpart F generally requires persons completing the repairs, service, or disposal to be properly certified and follow specific work practices during repair, service, and disposal activities. All repairs, service, and disposal of ozone depleting substances from any chillers and air conditioners at the facility are completed by a certified technician.

2.9. WEST VIRGINIA SIP REGULATIONS

This section of the renewal application identifies specific West Virginia SIP regulations relevant to the Neal Plant.

2.9.1. 45CSR2 - To Prevent and Control Particulate Matter Air Pollution From Combustion of Fuel in Indirect Heat Exchangers

This rule contains requirements for particulate matter emissions from the combustion of fuel in indirect heat exchangers.³ Pursuant to 45CSR2-3.1, the boilers at the Neal Plant shall not discharge smoke and/or particulate matter into the open air greater than ten (10) percent opacity based on a six minute block average.

Per 45CSR2-8.4.b:

“The owner or operator of a fuel burning unit(s) which combusts only natural gas shall be exempt from the requirements of subdivision 8.1.a and subsection 8.2.”

45CSR2-8.1.a and 8.2 specify the testing and monitoring requirements for the owner and operator of fuel burning units. Since the boilers at the Neal Plant combust only natural gas, Braskem is exempt from the testing and monitoring requirements of this rule.

A Type ‘b’ fuel burning unit, per the definitions provided in 45CSR2-2.10.b, is any fuel burning unit other than hand-fired or stoker-fired fuel burning units or units that generate steam or other vapor to produce electric power for sale. Therefore, the boilers at the Neal Plant are Type ‘b’ fuel burning units. Pursuant to 45CSR2-4.3, the allowable emission rate for these boilers shall be determined by the following formula:

$$R_e = \left(1 - \frac{H_{et} - H_e}{H_{et}}\right) \times R_{et}$$

Where,

R_e is the total allowable emission rate in pounds per hour for the new fuel burning unit(s);

H_{et} is the total design heat input in MMBtu/hr of the existing and new similar units;

R_{et} is the total allowable emission rate in pounds per hour corresponding to H_{et} ; and

H_e is the total design heat input in MMBtu/hr for the new fuel burning unit(s).

Furthermore, per 45CSR2-4.1.b, the product of 0.09 and the total design heat input in MMBtu of all similar fuel burning units at the Neal Plant shall not exceed 600 pounds per hour (lb/hr).

Braskem maintains records of operating schedules and monthly natural gas usage within the natural gas boilers. Furthermore, the boilers must also meet the requirements for start-ups, shutdowns, and malfunctions provided in 45CSR2-9.

2.9.2. 45CSR6 - To Prevent and Control Air Pollution from Combustion of Refuse

The provisions of 45CSR6 include emissions standards for particulate and opacity generated in incineration units. The OSBL Flare and ISBL Flare are subject to these provisions; however, compliance with the more

³ The B101 propane heater at the Neal Plant is a process heater which does not meet the definition of “indirect heat exchanger” provided in 45CSR2-2.14. Therefore, B101 is not subject to the requirements of 45CSR2.

stringent operating requirements for flares provided in NSPS A and NSPS DDD streamlines compliance with the particulate and opacity emission limits of 45CSR6.

2.9.3. 45CSR7 - To Prevent and Control Particulate Matter Air Pollution from Manufacturing Processes and Associated Operations

The material handling operations conducted in the FNS area as well as one operation in the Polymerization (A-91) area meet the definition of manufacturing processes contained in 45CSR7-2.38. Therefore, they are required comply with the standards provided in 45CSR7-3 and 45CSR7-4 for emissions of opacity and particulate matter, respectively. Braskem personnel conduct monthly visible emissions checks to demonstrate compliance with the standards of 45CSR7. In the event that visible emissions are observed at a given source during three (3) consecutive monthly checks, Braskem personnel will conduct an opacity observation in accordance with the testing requirements of 45CSR7A.

2.9.4. 45CSR10 - To Prevent and Control Air Pollution from the Emission of Sulfur Oxides

This rule prevents and controls emissions of sulfur oxides (SO_x) from fuel burning sources, manufacturing process sources, and the combustion of refinery and/or process gas streams. According to Table 45-10A of 45CSR10, Wayne County is a priority III county. Braskem will comply with the hourly SO₂ emission limit calculated as specified in 45CSR10-3.3. This emission limit is calculated by multiplying 3.2 lb/MMBtu by the hourly heat input of a fuel burning unit to obtain an hourly SO₂ emission limit.

Per 45CSR10-10.3:

“The owner or operator of a fuel burning unit(s) which combusts natural gas, wood or distillate oil, alone or in combination, shall be exempt from the requirements of section 8...”

Because the boilers at the Neal Plant combust only natural gas, Braskem is exempt from the testing, monitoring, and reporting requirements of 45CSR10-8 and 45CSR10A.

2.9.5. 45CSR13 - Permits for Construction, Modification, Relocation and Operation of Stationary Sources of Air Pollutants, Notification Requirements, Administrative Updates, Temporary Permits, General Permits, and Procedures for Evaluation

This rule is generally applicable to the Neal Plant. Currently, the Neal Plant has one construction permit R13-1830K and one general permit G60-C019. As stated above, the Neal Plant has also permanently shut down B603. Therefore, Braskem will submit a Class I Administrative Update for the removal of B603 from the R13 permit. It should be noted that the Neal Plant does not hold a 45CSR14 or 45CSR19 permit nor is the Neal Plant required to have a 45CSR14 or 45CSR19 permit.

2.9.6. 45CSR16 - Standards of Performance for New Stationary Sources

The provisions of 45CSR16 incorporate by reference the NSPS standards contained in 40 CFR 60. Braskem will continue to comply with NSPS DDD and NSPS VV as described in subsections 2.3.1 and 2.3.2 of this report.

2.9.7. 45CSR21 - Regulation to Prevent and Control Air Pollution from the Emission of VOC

Operations at the Neal Plant are subject to the standards for VOC emissions provided in Section 37 – Leaks from Synthetic Organic Chemical, Polymer, and Resin Manufacturing Equipment and Section 38 – Manufacture of High-Density Polyethylene, Polypropylene, and Polystyrene Resins of 45CSR21. Specifically, the OSBL Flare and ISBL Flare are required to comply with the operating standards contained in 45CSR21-38.3.a.3. Braskem demonstrates compliance with Sections 37 and 38 of 45CSR21 through compliance with NSPS VV and NSPS DDD.⁴

Additionally, the parts washers at the Neal Plant are subject to the requirements of Section 30 – Solvent Metal Cleaning. Per guidance from WVDEP, these requirements are not considered substantive requirements. Therefore, the parts washers have been included in the insignificant activity list provided in the general application form.

2.9.8. 45CSR22 - Air Quality Management Fee Program

This rule is generally applicable to the Neal Plant. In addition to permit to construct fees, 45CSR22-4.1a requires the Neal Plant to obtain a certificate to operate, which the Neal Plant obtains annually upon submittal of Certified Emission Statement.

2.9.9. 45CSR28 - Air Pollutant Emissions Banking and Trading

Braskem requested credits per 45CSR28 in association with the permanent shutdown of B602 and its associated equipment.

2.9.10. 45CSR29 - Rule Requiring the Submission of Emission Statements for VOC Emissions and Oxides of Nitrogen Emissions

45CSR29 requires the submission of emission statements for stationary sources of NO_x or VOC located in Putnam, Kanawha, Cabell, Wayne, Wood, and Greenbrier Counties. Operations at the Neal Plant exceed the emissions thresholds provided in 45CSR29-3.2. Braskem submits the Certified Emission Statement as well as emission inventory on an annual basis. Therefore, Braskem submits an annual emissions statement in accordance with the provisions of 45CSR29-4 and 45CSR29-5.

2.9.11. 45CSR31 - Confidential Information

Some of the information (e.g., process descriptions and process flow diagrams) contained in this application is confidential business information since the release of it to competitors would allow them to determine process technology and provide an unfair competitive advantage. Therefore, Braskem is submitting a Confidential Business Information Claim as Appendix B in accordance with 45CSR31.

⁴ As described in 45CSR21-37.1.a., the standards for equipment leaks apply to all equipment in VOC service at a polymer manufacturing facility. For Areas 10 and 16, Braskem demonstrates compliance with the standards of 45CSR21 through compliance with NSPS VV and NSPS DDD as described in CO-R21-97-44.

2.9.12. 45CSR34 - Emission Standards for Hazardous Air Pollutants

The provisions of 45CSR34 incorporate by reference the MACT standards contained in 40 CFR 63. As described in section 2.4.4 of this report, MACT ZZZZ is the only standard potentially applicable to operations at the Neal Plant.

3. WVDAQ APPLICATION FOR A TITLE V OPERATING PERMIT RENEWAL

West Virginia Department of Environmental Protection, Division of Air Quality, application for a renewal of a Title V Operating Permit.

The permit application forms in Attachments A through G and the supplemental information provided in Appendices A and B are being submitted as required by WVDEP for this Title V Operating Permit renewal application.



WEST VIRGINIA DEPARTMENT OF ENVIRONMENTAL PROTECTION

DIVISION OF AIR QUALITY

601 57th Street SE
Charleston, WV 25304
Phone: (304) 926-0475

www.dep.wv.gov/daq

INITIAL/RENEWAL TITLE V PERMIT APPLICATION - GENERAL FORMS

Section 1: General Information

Form with 10 sections: 1. Name of Applicant (Braskem America, Inc.), 2. Facility Name (Neal Plant), 3. DAQ Plant ID No. (099-00010), 4. Federal Employer ID No. (231742283), 5. Permit Application Type (Renewal), 6. Type of Business Entity (Corporation), 7. Is the Applicant the: (Both), 8. Number of onsite employees (109), 9. Governmental Code (Privately owned), 10. Business Confidentiality Claims (Yes).

11. Mailing Address		
Street or P.O. Box: 200 Big Sandy Road		
City: Kenova	State: WV	Zip: 25530-
Telephone Number: (304) 453-1371	Fax Number: (304) 453-5916	

12. Facility Location		
Street: 200 Big Sandy Road	City: Kenova	County: Wayne
UTM Easting: 360.60 km	UTM Northing: 4,246.10 km	Zone: <input checked="" type="checkbox"/> 17 or <input type="checkbox"/> 18
Directions: From I-64, take Exit #1. Go south on US-52 for two (2) miles to the stoplight at the "T" intersection. Turn right and go ¼ mile and turn left through railroad underpass. Make a left after underpass and go one (1) mile to the plant entrance on the right.		
Portable Source? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		
Is facility located within a nonattainment area? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If yes, for what air pollutants?	
Is facility located within 50 miles of another state? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	If yes, name the affected state(s). Kentucky Ohio	
Is facility located within 100 km of a Class I Area¹? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If yes, name the area(s). Otter Creek (WV), Linville Gorge (NC), James River Face (VA), Dolly Sods (WV), and Great Smoky Mountains (NC/TN)	
If no, do emissions impact a Class I Area¹? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		
¹ Class I areas include Dolly Sods and Otter Creek Wilderness Areas in West Virginia, and Shenandoah National Park and James River Face Wilderness Area in Virginia.		

13. Contact Information		
Responsible Official: Jeffrey Blatt		Title: Facilities Manager
Street or P.O. Box: 200 Big Sandy Road		
City: Kenova	State: WV	Zip: 25530-
Telephone Number: (304) 453-1371	Fax Number: (304) 453-5916	
E-mail address: jeffrey.blatt@braskem.com		
Environmental Contact: Bernie Marshall		Title: Lead Environmental Engineer
Street or P.O. Box: 200 Big Sandy Road		
City: Kenova	State: WV	Zip: 25530-
Telephone Number: (304) 453-5926	Fax Number: (304) 453-5916	
E-mail address: bernard.marshall@braskem.com		
Application Preparer: Daniel Wheeler		Title: Managing Consultant
Company: Trinity Consultants		
Street or P.O. Box: 8425 Pulsar Place, Suite 280		
City: Columbus	State: OH	Zip: 43240-
Telephone Number: (614) 433-0733	Fax Number: (614) 433-0734	
E-mail address: dwheeler@trinityconsultants.com		

14. Facility Description

List all processes, products, NAICS and SIC codes for normal operation, in order of priority. Also list any process, products, NAICS and SIC codes associated with any alternative operating scenarios if different from those listed for normal operation.

Process	Products	NAICS	SIC
Propylene polymerization	Polypropylene resin pellets	325211	2821

Provide a general description of operations.

Please see Section 1.2 of the Title V Renewal Application Report.

15. Provide an **Area Map** showing plant location as **ATTACHMENT A**.

16. Provide a **Plot Plan(s)**, e.g. scaled map(s) and/or sketch(es) showing the location of the property on which the stationary source(s) is located as **ATTACHMENT B**. For instructions, refer to "Plot Plan - Guidelines."

17. Provide a detailed **Process Flow Diagram(s)** showing each process or emissions unit as **ATTACHMENT C**. Process Flow Diagrams should show all emission units, control equipment, emission points, and their relationships.

Section 2: Applicable Requirements

18. Applicable Requirements Summary	
Instructions: Mark all applicable requirements.	
<input checked="" type="checkbox"/> SIP	<input type="checkbox"/> FIP
<input checked="" type="checkbox"/> Minor source NSR (45CSR13)	<input type="checkbox"/> PSD (45CSR14)
<input type="checkbox"/> NESHAP (45CSR34)	<input type="checkbox"/> Nonattainment NSR (45CSR19)
<input checked="" type="checkbox"/> Section 111 NSPS	<input type="checkbox"/> Section 112(d) MACT standards
<input type="checkbox"/> Section 112(g) Case-by-case MACT	<input checked="" type="checkbox"/> 112(r) RMP
<input type="checkbox"/> Section 112(i) Early reduction of HAP	<input type="checkbox"/> Consumer/commercial prod. reqts., section 183(e)
<input type="checkbox"/> Section 129 Standards/Reqts.	<input checked="" type="checkbox"/> Stratospheric ozone (Title VI)
<input type="checkbox"/> Tank vessel reqt., section 183(f)	<input type="checkbox"/> Emissions cap 45CSR§30-2.6.1
<input type="checkbox"/> NAAQS, increments or visibility (temp. sources)	<input type="checkbox"/> 45CSR27 State enforceable only rule
<input checked="" type="checkbox"/> 45CSR4 State enforceable only rule	<input type="checkbox"/> Acid Rain (Title IV, 45CSR33)
<input type="checkbox"/> Emissions Trading and Banking (45CSR28)	<input checked="" type="checkbox"/> Compliance Assurance Monitoring (40CFR64)
<input type="checkbox"/> CAIR NO _x Annual Trading Program (45CSR39)	<input type="checkbox"/> CAIR NO _x Ozone Season Trading Program (45CSR40)
<input type="checkbox"/> CAIR SO ₂ Trading Program (45CSR41)	

19. Non Applicability Determinations
<p>List all requirements which the source has determined not applicable and for which a permit shield is requested. The listing shall also include the rule citation and the reason why the shield applies.</p> <ol style="list-style-type: none"> 1. A non-applicability determination with respect to 40 CFR 60, Subpart Dc was made pertaining to B600, a 77 MMBtu/hr natural gas fired boiler constructed in 1961 before the 1989 applicability date. In 1995, a low NO_x burner was added to B600; however, the addition is not considered a modification under 40 CFR 60, Subpart A since it did not result in an increase of air pollutants for which 40 CFR 60, Subpart Dc provides standards under 40 CFR 60.42c and 40 CFR 60.43c. [Title V Permit Condition 3.7.2.b.] 2. A non-applicability determination with respect to 40 CFR 60, Subpart Dc was also made for the H-081 and H-082 boilers since their rated capacity is less than the applicability threshold of 10 MMBtu/hr provided in 40 CFR 60.40c(a). [Title V Permit Condition 3.7.2.c.]
<input checked="" type="checkbox"/> Permit Shield

19. Non Applicability Determinations (Continued) - Attach additional pages as necessary.

List all requirements which the source has determined not applicable and for which a permit shield is requested. The listing shall also include the rule citation and the reason why the shield applies.

3. Braskem is not subject to the standards and provisions in 40 CFR 63, Subpart FFFF, the Miscellaneous Organic Chemical Manufacturing NESHAP or MON, because the Neal Plant became an area source of HAPs upon the permanent shutdown of the Coal Boiler (B602). As described in 40 CFR 63.2435(a), 40 CFR 63, Subpart FFFF applies only to miscellaneous organic chemical manufacturing process units (MCPUs) at major sources of HAP emissions. Please note, historically, the Neal Plant has not been subject to the standards and provisions in 40 CFR 63, Subpart FFFF as the only major source of HAP emissions was B602 which is considered ancillary equipment. Per 40 CFR 63.2550, ancillary equipment is not part of an MCPU. For additional information, please refer to the May 19, 2004 MON non-applicability letter from Jim Fain (Sunoco) to Jesse Hanshaw (WVDEP).
4. A non-applicability determination with respect to 40 CFR 60, Subpart DDD is instituted for the tanks listed below given that the definitions of affected facilities provided in 40 CFR 60.560(a)(1) and 40 CFR 60.561 (e.g., raw materials preparation, polymerization reaction, material recovery, product finishing, and product storage) do not include material storage tanks. This non-applicability determination refers to the following tanks: F-698, D103, D105, D106A, D106B, D107, D110A, D110B, F-8809A, F-8809B, F291, H-9209A tank, H-9209B tank, F1000, F290, F704, and F707.
5. Braskem is not subject to the standards and provisions in 40 CFR 63, Subpart EEEE because the Neal Plant became an area source of HAPs upon the permanent shutdown of B602. As described in 40 CFR 63.2334(a), 40 CFR 63, Subpart EEEE applies only to organic liquids distribution (OLD) operations at major sources of HAP emissions. Please note, historically, the Neal Plant has not been subject to the standards and provisions in 40 CFR 63, Subpart EEEE as the only major source of HAP emissions was B602. Additionally, the liquid materials handled and processed at the facility do not contain organic HAPs in concentrations of five (5) percent by weight or greater as determined according to the procedures specified in 40 CFR 63.2354(c). Therefore, the Neal Plant does not meet the definition of an OLD operation in 40 CFR 63.2406.
6. A non-applicability determination with respect to 40 CFR 60, Subpart VVa is instituted for all affected sources under 40 CFR 60, Subpart DDD given that the preamble to Subpart VVa in 72 FR 64860 states that the standards of Subpart VVa do not apply to affected sources under 40 CFR 60, Subpart DDD. In addition, Subpart DDD has not been amended to incorporate by reference the standards for equipment leaks provided in Subpart VVa. Additionally, the Neal Plant is not a synthetic organic chemical manufacturing industry (SOCMI) facility; therefore, the Neal Plant is not directly subject to 40 CFR 60, Subpart VVa.
7. A non-applicability determination with respect to 40 CFR 63, Subpart VVVVVV (GACT 6V) was instituted for all operations at the Neal Plant given that the facility does not use as feedstock, generate as a byproduct, or produce as product any of the HAPs listed in Table 1 of GACT 6V in the chemical manufacturing process unit. Ancillary equipment (e.g., boilers) are not considered part of the chemical manufacturing process unit. Therefore, the Neal Plant is not subject to this subpart.

Permit Shield

20. Facility-Wide Applicable Requirements

List all facility-wide applicable requirements. For each applicable requirement, include the underlying rule/regulation citation and/or construction permit with the condition number. (Note: Title V permit condition numbers alone are not the underlying applicable requirements).

Open burning. The open burning of refuse by any person, firm, corporation, association or public agency is prohibited except as noted in 45 CSR 6-3.1. **[45CSR6-3.1.]**

Open burning exemptions. The exemptions listed in 45 CSR 6-3.1 are subject to the following stipulation: Upon notification by the Secretary, no person shall cause, suffer, allow or permit any form of open burning during existing or predicted periods of atmospheric stagnation. Notification shall be made by such means as the Secretary may deem necessary and feasible. **[45CSR6-3.2.]**

Asbestos. The permittee is responsible for thoroughly inspecting the facility, or part of the facility, prior to commencement of demolition or renovation for the presence of asbestos and complying with 40 C.F.R. § 61.145, 40 C.F.R. § 61.148, and 40 C.F.R. § 61.150. The permittee, owner, or operator must notify the Secretary at least ten (10) working days prior to the commencement of any asbestos removal on the forms prescribed by the Secretary if the permittee is subject to the notification requirements of 40 C.F.R. § 61.145(b)(3)(i). The USEPA, the Division of Waste Management and the Bureau for Public Health - Environmental Health require a copy of this notice to be sent to them. **[40 C.F.R. 61 and 45CSR34, 45CSR13]**

Odor. No person shall cause, suffer, allow or permit the discharge of air pollutants which cause or contribute to an objectionable odor at any location occupied by the public. This requirement streamlines compliance with the incinerator requirements pertaining to odors of 45 CSR6-4.6. **[45CSR4-3.1 State-Enforceable only.]**

Standby plan for reducing emissions. When requested by the Secretary, the permittee shall prepare standby plans for reducing the emissions of air pollutants in accordance with the objectives set forth in Tables I, II, and III of 45 CSR 11. **[45CSR11-5.2]**

Emission inventory. The permittee is responsible for submitting, on an annual basis, an emission inventory in accordance with the submittal requirements of the Division of Air Quality. **[W.Va. Code § 22-5-4(a)(14)]**

Ozone-depleting substances. For those facilities performing maintenance, service, repair or disposal of appliances, the permittee shall comply with the standards for recycling and emissions reduction pursuant to 40 C.F.R. Part 82, Subpart F, except as provided for Motor Vehicle Air Conditioners (MVACs) in Subpart B:

- a. Persons opening appliances for maintenance, service, repair, or disposal must comply with the prohibitions and required practices pursuant to 40 C.F.R. §§ 82.154 and 82.156.
- b. Equipment used during the maintenance, service, repair, or disposal of appliances must comply with the standards for recycling and recovery equipment pursuant to 40 C.F.R. § 82.158.
- c. Persons performing maintenance, service, repair, or disposal of appliances must be certified by an approved technician certification program pursuant to 40 C.F.R. § 82.161.

[40 C.F.R. 82, Subpart F]

Permanent shutdown. A source which has not operated at least 500 hours in one 12-month period within the previous five (5) year time period may be considered permanently shut down, unless such source can provide to the Secretary, with reasonable specificity, information to the contrary. All permits may be modified or revoked and/or reapplication or application for new permits may be required for any source determined to be permanently shut down.

[45CSR§13-10.5, 45CSR13, R13-1830 condition 3.1.5.]

The permittee shall not cause, suffer, allow or permit visible emissions from any storage structure(s) associated with any manufacturing process (es) that is required pursuant to condition 3.1.12 to have a full enclosure and be equipped with a particulate matter control device.

[45CSR§7-3.7, 45CSR13, R13-1830 condition 4.1.16.3.]

The permittee shall not cause, suffer, allow or permit any manufacturing process or storage structure generating fugitive particulate matter to operate that is not equipped with a system, which may include, but not be limited to, process equipment design, control equipment design or operation and maintenance procedures, to minimize the emissions of fugitive particulate matter. To minimize means such system shall be installed, maintained and operated to ensure the lowest fugitive particulate matter emissions reasonably achievable.

[45CSR§7-5.1, 45CSR13, R13-1830 condition 4.1.16.4.]

The permittee shall maintain particulate matter control of the plant premises, and plant owned, leased or controlled access roads, by paving, application of asphalt, chemical dust suppressants or other suitable dust control measures. Good operating practices shall be implemented and when necessary particulate matter suppressants shall be applied in relation to stockpiling and general material handling to minimize particulate matter generation and atmospheric entrainment.

[45CSR§7-5.2, 45CSR13, R13-1830 condition 4.1.16.5.]

Permit Shield

For all facility-wide applicable requirements listed above, provide monitoring/testing / recordkeeping / reporting which shall be used to demonstrate compliance. If the method is based on a permit or rule, include the condition number and/or citation. (Note: Each requirement listed above must have an associated method of demonstrating compliance. If there is not already a required method in place, then a method must be proposed.)

Stack testing. As per provisions set forth in this permit or as otherwise required by the Secretary, in accordance with the West Virginia Code, underlying regulations, permits and orders, the permittee shall conduct test(s) to determine compliance with the emission limitations set forth in this permit and/or established or set forth in underlying documents. The Secretary, or his duly authorized representative, may at his option witness or conduct such test(s). Should the Secretary exercise his option to conduct such test(s), the operator shall provide all necessary sampling connections and sampling ports to be located in such manner as the Secretary may require, power for test equipment and the required safety equipment, such as scaffolding, railings and ladders, to comply with generally accepted good safety practices. Such tests shall be conducted in accordance with the methods and procedures set forth in this permit or as otherwise approved or specified by the Secretary in accordance with the following:

- a. The Secretary may on a source-specific basis approve or specify additional testing or alternative testing to the test methods specified in the permit for demonstrating compliance with 40 C.F.R. Parts 60, 61, and 63, if applicable, in accordance with the Secretary's delegated authority and any established equivalency determination methods which are applicable.
- b. The Secretary may on a source-specific basis approve or specify additional testing or alternative testing to the test methods specified in the permit for demonstrating compliance with applicable requirements which do not involve federal delegation. In specifying or approving such alternative testing to the test methods, the Secretary, to the extent possible, shall utilize the same equivalency criteria as would be used in approving such changes under Section 3.3.1.a. of this permit.
- c. All periodic tests to determine mass emission limits from or air pollutant concentrations in discharge stacks and such other tests as specified in this permit shall be conducted in accordance with an approved test protocol. Unless previously approved, such protocols shall be submitted to the Secretary in writing at least thirty (30) days prior to any testing and shall contain the information set forth by the Secretary. In addition, the permittee shall notify the Secretary at least fifteen (15) days prior to any testing so the Secretary may have the opportunity to observe such tests. This notification shall include the actual date and time during which the test will be conducted and, if appropriate, verification that the tests will fully conform to a referenced protocol previously approved by the Secretary.
- d. The permittee shall submit a report of the results of the stack test within 60 days of completion of the test. The test report shall provide the information necessary to document the objectives of the test and to determine whether proper procedures were used to accomplish these objectives. The report shall include the following: the certification described in paragraph 3.5.1; a statement of compliance status, also signed by a responsible official; and, a summary of conditions which form the basis for the compliance status evaluation. The summary of conditions shall include the following:
 1. The permit or rule evaluated, with the citation number and language.
 2. The result of the test for each permit or rule condition.
 3. A statement of compliance or non-compliance with each permit or rule condition.

[W.Va. Code § 22-5-4(a)(15) and 45CSR13, Permit No. R13-1830, Condition 4.3.1., 4.3.5., 4.3.6]

Monitoring information. The permittee shall keep records of monitoring information that include the following:

- a. The date, place as defined in this permit and time of sampling or measurements;
- b. The date(s) analyses were performed;
- c. The company or entity that performed the analyses;
- d. The analytical techniques or methods used;
- e. The results of the analyses; and
- f. The operating conditions existing at the time of sampling or measurement.

[45CSR30-5.1.c.2.A.] [45CSR13, Permit No. R13-1830, Condition 4.4.1.]

Are you in compliance with all facility-wide applicable requirements? Yes No

If no, complete the **Schedule of Compliance Form** as **ATTACHMENT F**.

20. Facility-Wide Applicable Requirements (Continued) - Attach additional pages as necessary.

List all facility-wide applicable requirements. For each applicable requirement, include the rule citation and/or permit with the condition number.

Retention of records. The permittee shall retain records of all required monitoring data and support information for a period of at least five (5) years from the date of monitoring sample, measurement, report, application, or record creation date. 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. Where appropriate, records may be maintained in computerized form in lieu of the above records.

[45CSR30-5.1.c.2.B.]

Risk Management Plan. This stationary source, as defined in 40 C.F.R. § 68.3, is subject to Part 68. This stationary source shall submit a risk management plan (RMP) by the date specified in 40 C.F.R. Part 68.10. This stationary source shall certify compliance with the requirements of Part 68 as part of the annual compliance certification as required by 40 C.F.R. Part 70 or 71. [40 C.F.R. 68]

Operation and Maintenance of Air Pollution Control Equipment. The permittee shall, to the extent practicable, install, maintain, and operate all pollution control equipment listed in Section 1.0 and associated monitoring equipment in a manner consistent with safety and good air pollution control practices for minimizing emissions, or comply with any more stringent limits set forth in this permit or as set forth by any State rule, Federal regulation, or alternative control plan approved by the Secretary. [45CSR13, Permit No. R13-1830 condition 4.1.20.]

New applicable requirements. If any applicable requirement is promulgated during the term of this permit, the permittee will meet such requirements on a timely basis, or in accordance with a more detailed schedule if required by the applicable requirement.

[45CSR30-4.3.h.1.B.]

Odors. For the purposes of 45CSR4, the permittee shall maintain a record of all odor complaints received. Such record shall contain an assessment of the validity of the complaints as well as any corrective actions taken. [45 CSR 30-5.1.c. State-Enforceable only.]

Responsible official. Any application form, report, or compliance certification required by this permit to be submitted to the DAQ and/or USEPA shall contain a certification by the responsible official that states that, based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate and complete. [45CSR30-4.4. and 5.1.c.3.D.]

Confidential information. A permittee may request confidential treatment for the submission of reporting required under 45CSR§30-5.1.c.3. pursuant to the limitations and procedures of W.Va. Code § 22-5-10 and 45CSR31. [45CSR 30-5.1.c.3.E.]

Permit Shield

For all facility-wide applicable requirements listed above, provide monitoring/testing/recordkeeping/reporting which shall be used to demonstrate compliance. If the method is based on a permit or rule, include the condition number and/or citation. (Note: Each requirement listed above must have an associated method of demonstrating compliance. If there is not already a required method in place, then a method must be proposed.)

Communications. Except for the electronic submittal of the annual certification to the USEPA as required in 3.5.5 below, all notices, requests, demands, submissions and other communications required or permitted to be made to the Secretary of DEP and/or USEPA shall be made in writing and shall be deemed to have been duly given when delivered by hand, mailed first class, or by private carrier with postage prepaid to the address(es) set forth below or to such other person or address as the Secretary of the Department of Environmental Protection may designate:

If to the DAQ:

Director
WVDEP
Division of Air Quality
601 57th Street SE
Charleston, WV 25304
Phone: 304/926-0475
FAX: 304/926-0478

If to the US EPA:

Associate Director
Office of Air Enforcement and Compliance Assistance
(3AP20)
U. S. Environmental Protection Agency
Region III
1650 Arch Street
Philadelphia, PA 19103-2029

Certified emissions statement. The permittee shall submit a certified emissions statement and pay fees on an annual basis in accordance with the submittal requirements of the Division of Air Quality.
[45CSR30-8.]

Compliance certification. The permittee shall certify compliance with the conditions of this permit on the forms provided by the DAQ. In addition to the annual compliance certification, the permittee may be required to submit certifications more frequently under an applicable requirement of this permit. The annual certification shall be submitted to the DAQ and USEPA on or before March 15 of each year, and shall certify compliance for the period ending December 31. The annual certification to the USEPA shall be submitted in electronic format only. It shall be submitted by e-mail to the following address: R3_APD_Permits@epa.gov. The permittee shall maintain a copy of the certification on site for five (5) years from submittal of the certification. **[45CSR§30-5.3.e.]**

Semi-annual monitoring reports. The permittee shall submit reports of any required monitoring on or before September 15 for the reporting period January 1 to June 30 and on or before March 15 for the reporting period July 1 to December 31. All instances of deviation from permit requirements must be clearly identified in such reports. All required reports must be certified by a responsible official consistent with 45CSR§30-4.4.
[45CSR§30-5.1.c.3.A.]

Are you in compliance with all facility-wide applicable requirements? Yes No

If no, complete the **Schedule of Compliance Form** as **ATTACHMENT F**.

22. Inactive Permits/Obsolete Permit Conditions

Permit Number	Date of Issuance	Permit Condition Number
R30-09900010-2012; MM03	Initial: 04/24/2012 Last Modified: 09/15/2014	4.1.2.73E
		4.1.4.4.
		4.3.1.
		4.5.3.
		All references to B603 are obsolete and should be removed.
R13-1830K	03/25/2014	4.1.1.73E
		4.1.8.4.
		4.3.7.
		4.5.6.
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Section 3: Facility-Wide Emissions

23. Facility-Wide Emissions Summary [Tons per Year] <i>Please see Appendix A.</i>	
Criteria Pollutants	Potential Emissions
Carbon Monoxide (CO)	
Nitrogen Oxides (NO _x)	
Lead (Pb)	
Particulate Matter (PM _{2.5}) ¹	
Particulate Matter (PM ₁₀) ¹	
Total Particulate Matter (TSP)	
Sulfur Dioxide (SO ₂)	
Volatile Organic Compounds (VOC)	
Hazardous Air Pollutants ²	Potential Emissions
Regulated Pollutants other than Criteria and HAP	Potential Emissions

¹PM_{2.5} and PM₁₀ are components of TSP.
²For HAPs that are also considered PM or VOCs, emissions should be included in both the HAPs section and the Criteria Pollutants section.

Section 4: Insignificant Activities

24. Insignificant Activities (Check all that apply)	
<input checked="" type="checkbox"/>	1. Air compressors and pneumatically operated equipment, including hand tools.
<input checked="" type="checkbox"/>	2. Air contaminant detectors or recorders, combustion controllers or shutoffs.
<input checked="" type="checkbox"/>	3. Any consumer product used in the same manner as in normal consumer use, provided the use results in a duration and frequency of exposure which are not greater than those experienced by consumer, and which may include, but not be limited to, personal use items; janitorial cleaning supplies, office supplies and supplies to maintain copying equipment.
<input checked="" type="checkbox"/>	4. Bathroom/toilet vent emissions.
<input checked="" type="checkbox"/>	5. Batteries and battery charging stations, except at battery manufacturing plants.
<input checked="" type="checkbox"/>	6. Bench-scale laboratory equipment used for physical or chemical analysis, but not lab fume hoods or vents. Many lab fume hoods or vents might qualify for treatment as insignificant (depending on the applicable SIP) or be grouped together for purposes of description.
<input type="checkbox"/>	7. Blacksmith forges.
<input checked="" type="checkbox"/>	8. Boiler water treatment operations, not including cooling towers.
<input checked="" type="checkbox"/>	9. Brazing, soldering or welding equipment used as an auxiliary to the principal equipment at the source.
<input type="checkbox"/>	10. CO ₂ lasers, used only on metals and other materials which do not emit HAP in the process.
<input checked="" type="checkbox"/>	11. Combustion emissions from propulsion of mobile sources, except for vessel emissions from Outer Continental Shelf sources.
<input type="checkbox"/>	12. Combustion units designed and used exclusively for comfort heating that use liquid petroleum gas or natural gas as fuel.
<input checked="" type="checkbox"/>	13. Comfort air conditioning or ventilation systems not used to remove air contaminants generated by or released from specific units of equipment.
<input checked="" type="checkbox"/>	14. Demineralized water tanks and demineralizer vents.
<input checked="" type="checkbox"/>	15. Drop hammers or hydraulic presses for forging or metalworking.
<input type="checkbox"/>	16. Electric or steam-heated drying ovens and autoclaves, but not the emissions from the articles or substances being processed in the ovens or autoclaves or the boilers delivering the steam.
<input type="checkbox"/>	17. Emergency (backup) electrical generators at residential locations.
<input type="checkbox"/>	18. Emergency road flares.

24. Insignificant Activities (Check all that apply)

19. Emission units which do not have any applicable requirements and which emit criteria pollutants (CO, NO_x, SO₂, VOC and PM) into the atmosphere at a rate of less than 1 pound per hour and less than 10,000 pounds per year aggregate total for each criteria pollutant from all emission units. Please specify all emission units for which this exemption applies along with the quantity of criteria pollutants emitted on an hourly and annual basis:

Emission Unit ID	Emission Unit Description	Tank Size (gal)	Potential Emissions (lb/hr)	Potential Emissions (tons/yr)
F-698	Used Oil Tank	16,500	0.004	0.018
D103	Hydraulic Oil Guard	106	0.00003	0.0001
D105	Oil/Grease Mixing Tank	580	0.00015	0.0006
D106A	Catalyst Tank	264	0.00007	0.0003
D106B	Catalyst Tank	264	0.00007	0.0003
D107	Hydraulic Oil Surge Drum	238	0.00006	0.0003
D110A	Donor Storage Tank	238	0.00006	0.0003
D110B	Donor Storage Tank	238	0.00006	0.0003
F-8809A	Peroxide Tank	30	0.00001	0.0000
F-8809B	Peroxide Tank	30	0.00001	0.0000
	F-8809A/B Peroxide Tank Loading	3.3 gal/hr	0.00001	0.0000
	Parts Washers	N/A	0.84	3.68
F291	Diesel Storage Tank	1000	5.82E-5	2.55E-4
H-9209-A	Diesel Storage Tank	370	2.40E-5	1.05E-4
H-9209-B	Diesel Storage Tank	370	2.40E-5	1.05E-4
F1000	Diesel Storage Tank	1000	5.37E-5	2.35E-4
F290	Diesel Storage Tank	528	3.20E-5	1.40E-4
F704	Diesel Storage Tank	1000	6.74E-5	2.95E-4
F707	Gasoline Tank	1000	0.02040	0.0894

20. Emission units which do not have any applicable requirements and which emit hazardous air pollutants into the atmosphere at a rate of less than 0.1 pounds per hour and less than 1,000 pounds per year aggregate total for all HAPs from all emission sources. This limitation cannot be used for any source which emits dioxin/furans nor for toxic air pollutants as per 45CSR27.

Please specify all emission units for which this exemption applies along with the quantity of hazardous air pollutants emitted on an hourly and annual basis:

Refer to the Table presented in Item 19.

21. Environmental chambers not using hazardous air pollutant (HAP) gases.
22. Equipment on the premises of industrial and manufacturing operations used solely for the purpose of preparing food for human consumption.
23. Equipment used exclusively to slaughter animals, but not including other equipment at slaughterhouses, such as rendering cookers, boilers, heating plants, incinerators, and electrical power generating equipment.
24. Equipment used for quality control/assurance or inspection purposes, including sampling equipment used to withdraw materials for analysis.
25. Equipment used for surface coating, painting, dipping or spray operations, except those that will emit VOC or HAP.
26. Fire suppression systems.
27. Firefighting equipment and the equipment used to train firefighters.
28. Flares used solely to indicate danger to the public.

24. Insignificant Activities (Check all that apply)	
<input type="checkbox"/>	29. Fugitive emission related to movement of passenger vehicle provided the emissions are not counted for applicability purposes and any required fugitive dust control plan or its equivalent is submitted.
<input type="checkbox"/>	30. Hand-held applicator equipment for hot melt adhesives with no VOC in the adhesive formulation.
<input checked="" type="checkbox"/>	31. Hand-held equipment for buffing, polishing, cutting, drilling, sawing, grinding, turning or machining wood, metal or plastic.
<input type="checkbox"/>	32. Humidity chambers.
<input checked="" type="checkbox"/>	33. Hydraulic and hydrostatic testing equipment.
<input checked="" type="checkbox"/>	34. Indoor or outdoor kerosene heaters.
<input checked="" type="checkbox"/>	35. Internal combustion engines used for landscaping purposes.
<input type="checkbox"/>	36. Laser trimmers using dust collection to prevent fugitive emissions.
<input checked="" type="checkbox"/>	37. Laundry activities, except for dry-cleaning and steam boilers.
<input checked="" type="checkbox"/>	38. Natural gas pressure regulator vents, excluding venting at oil and gas production facilities.
<input checked="" type="checkbox"/>	39. Oxygen scavenging (de-aeration) of water.
<input type="checkbox"/>	40. Ozone generators.
<input checked="" type="checkbox"/>	41. Plant maintenance and upkeep activities (e.g., grounds-keeping, general repairs, cleaning, painting, welding, plumbing, re-tarring roofs, installing insulation, and paving parking lots) provided these activities are not conducted as part of a manufacturing process, are not related to the source's primary business activity, and not otherwise triggering a permit modification. (Cleaning and painting activities qualify if they are not subject to VOC or HAP control requirements. Asphalt batch plant owners/operators must still get a permit if otherwise requested.)
<input checked="" type="checkbox"/>	42. Portable electrical generators that can be moved by hand from one location to another. "Moved by Hand" means that it can be moved without the assistance of any motorized or non-motorized vehicle, conveyance, or device.
<input checked="" type="checkbox"/>	43. Process water filtration systems and demineralizers.
<input checked="" type="checkbox"/>	44. Repair or maintenance shop activities not related to the source's primary business activity, not including emissions from surface coating or de-greasing (solvent metal cleaning) activities, and not otherwise triggering a permit modification.
<input checked="" type="checkbox"/>	45. Repairs or maintenance where no structural repairs are made and where no new air pollutant emitting facilities are installed or modified.
<input checked="" type="checkbox"/>	46. Routing calibration and maintenance of laboratory equipment or other analytical instruments.
<input type="checkbox"/>	47. Salt baths using nonvolatile salts that do not result in emissions of any regulated air pollutants. Shock chambers.
<input type="checkbox"/>	48. Shock chambers.
<input type="checkbox"/>	49. Solar simulators.
<input checked="" type="checkbox"/>	50. Space heaters operating by direct heat transfer.
<input type="checkbox"/>	51. Steam cleaning operations.
<input checked="" type="checkbox"/>	52. Steam leaks.
<input type="checkbox"/>	53. Steam sterilizers.
<input checked="" type="checkbox"/>	54. Steam vents and safety relief valves.
<input type="checkbox"/>	55. Storage tanks, reservoirs, and pumping and handling equipment of any size containing soaps, vegetable oil, grease, animal fat, and nonvolatile aqueous salt solutions, provided appropriate lids and covers are utilized.

24. Insignificant Activities (Check all that apply)	
<input checked="" type="checkbox"/>	56. Storage tanks, vessels, and containers holding or storing liquid substances that will not emit any VOC or HAP. Exemptions for storage tanks containing petroleum liquids or other volatile organic liquids should be based on size limits such as storage tank capacity and vapor pressure of liquids stored and are not appropriate for this list.
<input type="checkbox"/>	57. Such other sources or activities as the Director may determine.
<input checked="" type="checkbox"/>	58. Tobacco smoking rooms and areas.
<input checked="" type="checkbox"/>	59. Vents from continuous emissions monitors and other analyzers.

Section 5: Emission Units, Control Devices, and Emission Points

25. Equipment Table

Fill out the **Title V Equipment Table** and provide it as **ATTACHMENT D**.

26. Emission Units

For each emission unit listed in the **Title V Equipment Table**, fill out and provide an **Emission Unit Form** as **ATTACHMENT E**.

For each emission unit not in compliance with an applicable requirement, fill out a **Schedule of Compliance Form** as **ATTACHMENT F**.

27. Control Devices

For each control device listed in the **Title V Equipment Table**, fill out and provide an **Air Pollution Control Device Form** as **ATTACHMENT G**.

For any control device that is required on an emission unit in order to meet a standard or limitation for which the potential pre-control device emissions of an applicable regulated air pollutant is greater than or equal to the Title V Major Source Threshold Level, refer to the **Compliance Assurance Monitoring (CAM) Form(s)** for CAM applicability. Fill out and provide these forms, if applicable, for each Pollutant Specific Emission Unit (PSEU) as **ATTACHMENT H**.

All of the required forms and additional information can be found and downloaded from, the DEP website at www.dep.wv.gov/dag, requested by phone (304) 926-0475, and/or obtained through the mail.

ATTACHMENT A: AREA MAP



ATTACHMENT B: PLOT PLAN

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REVISIONS				
ZONE	REV	DESCRIPTION	DATE	APPROVED
--	2	ADDED 2007 ADDITION TO AREA 11	10/15/07	-----
--	1	ADDED CONSTRUCTION TRAILER AREA	2/19/07	-----

	PLOT PLAN OF SUNOCO CHEMICAL - 2007 SHEET 1 OF 2			
	NEAL PLANT 200 BIG SANDY RD. KENOVA, WV. 25530	SIZE: D	EQUIP. NO.: -----	DWG. NO.: G-6175
SCALE: 1"=100'-0"		DWN. BY: L.RUNYON	DATE: 03/14/07	SHEET: 1 OF 2

Redacted Copy - Claim of Confidentiality

REVISIONS				
BY	REV	DESCRIPTION	DATE	APPROVED
--	--	-----	-----	-----
LR	1	ADDED SUBSTATION FILL AREA	07/31/02	-----

	PLOT PLAN OF SUNOCO CHEMICAL - 2007 SHEET 2 OF 2			
	NEAL PLANT 200 BIG SANDY RD. KENOVA, WV. 25530	SIZE: D	EQUIP. NO.: -----	DWG. NO.: G-6175
SCALE: 1"=100'-0"		DWN. BY: LRUNYON	DATE: 03/14/01	SHEET: 2 OF 2

ATTACHMENT C: PROCESS FLOW DIAGRAMS

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REVISIONS				
REV	BY	DESCRIPTION	DATE	APPROVED

	PROCESS FLOW DIAGRAM			
	NEAL PLANT 200 BIG SANDY RD. KENDVA, WV. 25530			
SIZE: D	EQUIP. NO.:	DWG. NO.:	REV.:	
SCALE: NONE	DWN. BY:	DATE:	SHEET:	

ATTACHMENT D: EQUIPMENT TABLE

Table D-1. Emission Units Table

Emission Unit ID	Emission Point ID	Emission Unit Description	Year Installed	Design Capacity	Control Device
001 - Utilities					
001-02	01E	B600 -Natural Gas Steam Boiler: Model# 1VP-10B, Serial# 6380	1961	77 MMBtu/hr	Low NO _x Burners (Installed in 1995)
B604	75E	Boiler #4 - Natural Gas Steam Boiler: Babcock & Wilcox Model # FM 103-79	2011	99.66 MMBtu/hr	Inherent Flue Gas Recirculation
001-03	70E	H-081: Nebraska Natural Gas Steam Boiler, Model# NS-A-20, Serial# D-3226	1993	6.3 MMBtu/hr	NA
001-04	70E	H-082: Nebraska Natural Gas Steam Boiler, Model# NS-A-20, Serial# D-3227	1993	6.3 MMBtu/hr	NA
Cooling Tower	Fugitive	Facility Cooling Tower			NA
EG-1	EG-1E	H9202A Emergency Generator	1988	330 hp	NA
EG-2	EG-2E	H9202B Emergency Generator	1988	330 hp	NA
EG-3	EG-3E	H516 Emergency Generator	1998	507 hp	NA
002 - Raw Material Prep (Areas 10, 11, 15, & 16)					
B101	B101E	Nitrogen Heater	1960	300 TPY Propane (1.7 MMBtu/hr)	NA
OSBL Flare	B542E	OSBL Flare	Const. - 10/6/60 Modif. - 5/1/88	40,000 lb/hr	APCD
LDAR Components (A-10, A-11, A-15, and A-16)	Fugitive	Raw Material Prep Fugitive Emissions	--	--	Fugitive
Unpaved Roads	Fugitive	Facility-Wide Unpaved Roads	1960	--	NA
Paved Roads	Fugitive	Facility-Wide Paved Roads	1960	--	NA
003 - Polymerization (Area 11)					
ISBL Flare	91E	ISBL Flare	1988	366,000 lb/hr	APCD
DS503	82E	DS503 Vent	1988	-	NA
LDAR Components (A-91)	Fugitive	Poly Fugitive Emissions	--	--	Fugitive
005 - Product Finishing (Area 8)					
L-8903	76E	L-8903 Feeder #2	2014	75,000 lb/hr	Filter #2
L-8904	77E	L-8904 Feeder #3	2014	75,000 lb/hr	Filter #3
L-8905	78E	L-8905 Feeder #5	2014	75,000 lb/hr	Filter #5
L-8906	79E	L-8906 Feeder #6	2014	75,000 lb/hr	Filter #6
L-8907	80E	L-8907 Feeder #7	2014	75,000 lb/hr	Filter #7
L-8908	81E	L-8908 Feeder #4	2014	75,000 lb/hr	Filter #4
Filter #2	76E	L-8903 Feeder #2 Bag Filter	2014	--	APCD
Filter #3	77E	L-8904 Feeder #3 Bag Filter	2014	--	APCD
Filter #5	78E	L-8905 Feeder #5 Bag Filter	2014	--	APCD
Filter #6	79E	L-8906 Feeder #6 Bag Filter	2014	--	APCD
Filter #7	80E	L-8907 Feeder #7 Bag Filter	2014	--	APCD
Filter #4	81E	L-8908 Feeder #4 Bag Filter	2014	--	APCD
L-8829	74E	L-8829 Blender/Conveyor	1994	75,000 lb/hr	G-8830 Bag Filter
G-8830	74E	L-8829 Blender/Conveyor Bag Filter	2011	--	APCD
L-8856	56E	WPB Pellet Dryer	1994	75,000 lb/hr	NA
G-738	58E	WPB South Dust Collector	--	--	APCD
Matcon-Buls Loading Booth	58E	Matcon-Buls Loading Booth (2nd Floor)	1988	1,500 lb/hr	G-738 - South Dust Collector
Drum Weigh Station	58E	Drum Weigh Station (3rd Floor)	1988	1,500 lb/hr	G-738 - South Dust Collector
D-8808	58E	D-8808 Feeder to R1 New Line B Ribbon Blender (3rd Floor)	1988	1,500 lb/hr	G-738 - South Dust Collector
D-8809	58E	D-8809 Feeder to R1 New Line B Ribbon Blender (3rd Floor)	1988	1,500 lb/hr	G-738 - South Dust Collector
L-8829	58E	L-8829 Feeder to R1 New Line B Ribbon Blender (3rd Floor)	1988	1,500 lb/hr	G-738 - South Dust Collector
Matcon-Buls Unloading Booth	58E	Matcon-Buls Unloading Booth (3rd Floor)	1988	1,500 lb/hr	G-738 - South Dust Collector
Unnamed Cyclone #2	71E	Portable Blower Unit #2 - Unnamed Cyclone #2	--	--	APCD
Portable Blower Unit #2	71E	Portable Blower Unit #2	1980	8,000 lb/hr	Unnamed Cyclone #2
L-816B	68E	WP2 Extruder	1980	1,000 lb/hr	NA
WP2 Pellet Loading Hopper	69E	WP2 Pellet Loading Hopper	1980	1,000 lb/hr	NA

Table D-1. Emission Units Table

Emission Unit ID	Emission Point ID	Emission Unit Description	Year Installed	Design Capacity	Control Device
006 - Product Storage (Area 8)					
G-9001	24E	G-9001 Silos Bag Filter	--	--	APCD
D-9003	24E	D-9003 Pellet Silo	1990	75,000 lb/hr	G-9001 - Bag Filter
D-9002	24E	D-9002 Pellet Silo	1990	75,000 lb/hr	G-9001 - Bag Filter
G-9002	26E	G-9002 Silo/Blender Bag Filter	--	--	APCD
D-9001	26E	D-9001 Pellet Silo	1990	75,000 lb/hr	G-9002 - Bag Filter
D-9004	26E	D-9004 Pellet Silo	1990	75,000 lb/hr	G-9002 - Bag Filter
G-9003	72E	G-9003 Blenders Bag Filter	--	--	APCD
D-9005	72E	D-9005 Pellet Silo	1994	75,000 lb/hr	G-9003 - Bag Filter
D-9012	72E	D-9012 Pellet Silo	1994	75,000 lb/hr	G-9003 - Bag Filter
G-9004	38E	G-9004 Blenders Bag Filter	--	--	APCD
D-9006	38E	D-9006 Pellet Silo	1994	75,000 lb/hr	G-9004 - Bag Filter
D-9011	38E	D-9011 Pellet Silo	1994	75,000 lb/hr	G-9004 - Bag Filter
G-9501	42E	Flotriator Bag Filter	--	--	APCD
L-9501	42E	Flotriator	1984	60,000 lb/hr	G-9501 - Bag Filter
G-9005	49E	G-9005 Blenders Bag Filter	--	--	APCD
D-9007	49E	D-9007 Pellet Silo	1994	75,000 lb/hr	G-9005 - Bag Filter
D-9010	49E	D-9010 Pellet Silo	1994	75,000 lb/hr	G-9005 - Bag Filter
G-9006	50E	G-9006 Blenders Bag Filter	--	--	APCD
D-9008	50E	D-9008 Pellet Silo	1994	75,000 lb/hr	G-9006 - Bag Filter
D-9009	50E	D-9009 Pellet Silo	1994	75,000 lb/hr	G-9006 - Bag Filter
G-9503	51E	Pelletron Bag Filter	--	--	APCD
L-9503	51E	Pelletron	1994	60,000 lb/hr	G-9503 - Bag Filter
G-0908	59E	Returned Rail Car Unloading Cyclone Cartridge Filter	--	--	APCD
G-0911	59E	Returned Rail Car Unloading Cyclone Bag Filter	--	--	G-0908 - Cartridge Filter
G-0904	59E	Returned Rail Car Unloading Cyclone	1980	5,479 lb/hr	G-0911 - Bag Filter
D-670 (SB-1)	60E	SB-1 Super Blender	1978	5,479 lb/hr	NA
D-672 (SB-2)	61E	SB-2 Super Blender	1981	5,479 lb/hr	NA
SB-3	62E	Truck Loading Pellet Silo	1979	33,000 lb/hr	NA

ATTACHMENT E: EMISSION UNIT FORMS

ATTACHMENT E - Emission Unit Form

Emission Unit Description Please refer to Table E-1. General EU Data Group 001

Emission unit ID number: Group 001	Emission unit name: Utilities	List any control devices associated with this emission unit:
--	---	---

Provide a description of the emission unit (type, method of operation, design parameters, etc.):
Please refer to Table E-1. General EU Data Group 001

Manufacturer:	Model number:	Serial number:
----------------------	----------------------	-----------------------

Construction date: MM/DD/YYYY	Installation date: MM/DD/YYYY	Modification date(s): MM/DD/YYYY
---	---	--

Design Capacity (examples: furnaces - tons/hr, tanks - gallons):

Maximum Hourly Throughput:	Maximum Annual Throughput:	Maximum Operating Schedule:
-----------------------------------	-----------------------------------	------------------------------------

Fuel Usage Data (fill out all applicable fields)

Does this emission unit combust fuel? ___ Yes ___ No	If yes, is it? ___ Indirect Fired ___ Direct Fired
---	--

Maximum design heat input and/or maximum horsepower rating:	Type and Btu/hr rating of burners:
--	---

List the primary fuel type(s) and if applicable, the secondary fuel type(s). For each fuel type listed, provide the maximum hourly and annual fuel usage for each.

Describe each fuel expected to be used during the term of the permit.

Fuel Type	Max. Sulfur Content	Max. Ash Content	BTU Value

Emissions Data Please refer to Appendix A.		
Criteria Pollutants	Potential Emissions	
	PPH	TPY
Carbon Monoxide (CO)		
Nitrogen Oxides (NO _x)		
Lead (Pb)		
Particulate Matter (PM _{2.5})		
Particulate Matter (PM ₁₀)		
Total Particulate Matter (TSP)		
Sulfur Dioxide (SO ₂)		
Volatile Organic Compounds (VOC)		
Hazardous Air Pollutants	Potential Emissions	
	PPH	TPY
Regulated Pollutants other than Criteria and HAP	Potential Emissions	
	PPH	TPY

List the method(s) used to calculate the potential emissions (include dates of any stack tests conducted, versions of software used, source and dates of emission factors, etc.).

Please refer to Appendix A for emission calculations.

Applicable Requirements

List all applicable requirements for this emission unit. For each applicable requirement, include the underlying rule/regulation citation and/or construction permit with the condition number. (Note: Title V permit condition numbers alone are not the underlying applicable requirements). If an emission limit is calculated based on the type of source and design capacity or if a standard is based on a design parameter, this information should also be included.

Please refer to Table E-1. General EU Data Group 001

Permit Shield

For all applicable requirements listed above, provide monitoring/testing/recordkeeping/reporting which shall be used to demonstrate compliance. If the method is based on a permit or rule, include the condition number or citation. (Note: Each requirement listed above must have an associated method of demonstrating compliance. If there is not already a required method in place, then a method must be proposed.)

Please refer to Table E-1. General EU Data Group 001

Are you in compliance with all applicable requirements for this emission unit? Yes ___ No

If no, complete the **Schedule of Compliance Form** as ATTACHMENT F.

ATTACHMENT E - Emission Unit Form

Emission Unit Description Please refer to Table E-2. General EU Data Group 002

Emission unit ID number: Group 002	Emission unit name: Raw Material Prep (Areas 10, 11, 15, and 16)	List any control devices associated with this emission unit:
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Provide a description of the emission unit (type, method of operation, design parameters, etc.):
Please refer to Table E-2. General EU Data Group 002

Manufacturer:	Model number:	Serial number:
Construction date: MM/DD/YYYY	Installation date: MM/DD/YYYY	Modification date(s): MM/DD/YYYY

Design Capacity (examples: furnaces - tons/hr, tanks - gallons):

Maximum Hourly Throughput:	Maximum Annual Throughput:	Maximum Operating Schedule:
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Fuel Usage Data (fill out all applicable fields)

Does this emission unit combust fuel? <input type="checkbox"/> Yes <input type="checkbox"/> No	If yes, is it? <input type="checkbox"/> Indirect Fired <input type="checkbox"/> Direct Fired
Maximum design heat input and/or maximum horsepower rating:	Type and Btu/hr rating of burners:

List the primary fuel type(s) and if applicable, the secondary fuel type(s). For each fuel type listed, provide the maximum hourly and annual fuel usage for each.

Describe each fuel expected to be used during the term of the permit.

Fuel Type	Max. Sulfur Content	Max. Ash Content	BTU Value

Emissions Data Please refer to Appendix A.		
Criteria Pollutants	Potential Emissions	
	PPH	TPY
Carbon Monoxide (CO)		
Nitrogen Oxides (NO _x)		
Lead (Pb)		
Particulate Matter (PM _{2.5})		
Particulate Matter (PM ₁₀)		
Total Particulate Matter (TSP)		
Sulfur Dioxide (SO ₂)		
Volatile Organic Compounds (VOC)		
Hazardous Air Pollutants	Potential Emissions	
	PPH	TPY
Regulated Pollutants other than Criteria and HAP	Potential Emissions	
	PPH	TPY
<p>List the method(s) used to calculate the potential emissions (include dates of any stack tests conducted, versions of software used, source and dates of emission factors, etc.).</p> <p>Please refer to Appendix A for emission calculations.</p>		

Applicable Requirements

List all applicable requirements for this emission unit. For each applicable requirement, include the underlying rule/regulation citation and/or construction permit with the condition number. (Note: Title V permit condition numbers alone are not the underlying applicable requirements). If an emission limit is calculated based on the type of source and design capacity or if a standard is based on a design parameter, this information should also be included.

Please refer to Table E-2. General EU Data Group 002

Permit Shield

For all applicable requirements listed above, provide monitoring/testing/recordkeeping/reporting which shall be used to demonstrate compliance. If the method is based on a permit or rule, include the condition number or citation. (Note: Each requirement listed above must have an associated method of demonstrating compliance. If there is not already a required method in place, then a method must be proposed.)

Please refer to Table E-2. General EU Data Group 002

Are you in compliance with all applicable requirements for this emission unit? Yes¹ No

If no, complete the **Schedule of Compliance Form** as ATTACHMENT F.

¹ Please note that the Neal Plant has the required Flares' monitoring and record keeping systems in place; however, the Neal Plant has reported event-driven deviations of the associated monitoring and record keeping requirements.

ATTACHMENT E - Emission Unit Form

Emission Unit Description Please refer to Table E-3. General EU Data Group 003

Emission unit ID number: Group 003	Emission unit name: Polymerization (Area 91)	List any control devices associated with this emission unit:
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Provide a description of the emission unit (type, method of operation, design parameters, etc.):
Please refer to Table E-3. General EU Data Group 003

Manufacturer:	Model number:	Serial number:
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Construction date: MM/DD/YYYY	Installation date: MM/DD/YYYY	Modification date(s): MM/DD/YYYY
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Design Capacity (examples: furnaces - tons/hr, tanks - gallons):

Maximum Hourly Throughput:	Maximum Annual Throughput:	Maximum Operating Schedule:
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Fuel Usage Data (fill out all applicable fields)

Does this emission unit combust fuel? <input type="checkbox"/> Yes <input type="checkbox"/> No	If yes, is it? <input type="checkbox"/> Indirect Fired <input type="checkbox"/> Direct Fired
---	--

Maximum design heat input and/or maximum horsepower rating:	Type and Btu/hr rating of burners:
--	---

List the primary fuel type(s) and if applicable, the secondary fuel type(s). For each fuel type listed, provide the maximum hourly and annual fuel usage for each.

Describe each fuel expected to be used during the term of the permit.

Fuel Type	Max. Sulfur Content	Max. Ash Content	BTU Value

Emissions Data Please refer to Appendix A.		
Criteria Pollutants	Potential Emissions	
	PPH	TPY
Carbon Monoxide (CO)		
Nitrogen Oxides (NO _x)		
Lead (Pb)		
Particulate Matter (PM _{2.5})		
Particulate Matter (PM ₁₀)		
Total Particulate Matter (TSP)		
Sulfur Dioxide (SO ₂)		
Volatile Organic Compounds (VOC)		
Hazardous Air Pollutants	Potential Emissions	
	PPH	TPY
Regulated Pollutants other than Criteria and HAP	Potential Emissions	
	PPH	TPY

List the method(s) used to calculate the potential emissions (include dates of any stack tests conducted, versions of software used, source and dates of emission factors, etc.).

Please refer to Appendix A for emission calculations.

Applicable Requirements

List all applicable requirements for this emission unit. For each applicable requirement, include the underlying rule/regulation citation and/or construction permit with the condition number. (Note: Title V permit condition numbers alone are not the underlying applicable requirements). If an emission limit is calculated based on the type of source and design capacity or if a standard is based on a design parameter, this information should also be included.

Please refer to Table E-3. General EU Data Group 003

Permit Shield

For all applicable requirements listed above, provide monitoring/testing/recordkeeping/reporting which shall be used to demonstrate compliance. If the method is based on a permit or rule, include the condition number or citation. (Note: Each requirement listed above must have an associated method of demonstrating compliance. If there is not already a required method in place, then a method must be proposed.)

Please refer to Table E-3. General EU Data Group 003

Are you in compliance with all applicable requirements for this emission unit? Yes ¹ No

If no, complete the **Schedule of Compliance Form** as ATTACHMENT F.

¹ Please note that the Neal Plant has the required Flares' monitoring and record keeping systems in place; however, the Neal Plant has reported event-driven deviations of the associated monitoring and record keeping requirements.

ATTACHMENT E - Emission Unit Form

Emission Unit Description Please refer to Table E-4. General EU Data Group 005

Emission unit ID number: Group 005	Emission unit name: Product Finishing (Area 8)	List any control devices associated with this emission unit:
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Provide a description of the emission unit (type, method of operation, design parameters, etc.):
Please refer to Table E-4. General EU Data Group 005

Manufacturer:	Model number:	Serial number:
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Construction date: MM/DD/YYYY	Installation date: MM/DD/YYYY	Modification date(s): MM/DD/YYYY
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Design Capacity (examples: furnaces - tons/hr, tanks - gallons):

Maximum Hourly Throughput:	Maximum Annual Throughput:	Maximum Operating Schedule:
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Fuel Usage Data (fill out all applicable fields)

Does this emission unit combust fuel? ___ Yes ___ No	If yes, is it? ___ Indirect Fired ___ Direct Fired
---	--

Maximum design heat input and/or maximum horsepower rating:	Type and Btu/hr rating of burners:
--	---

List the primary fuel type(s) and if applicable, the secondary fuel type(s). For each fuel type listed, provide the maximum hourly and annual fuel usage for each.

Describe each fuel expected to be used during the term of the permit.

Fuel Type	Max. Sulfur Content	Max. Ash Content	BTU Value

Emissions Data Please refer to Appendix A.

Criteria Pollutants	Potential Emissions	
	PPH	TPY
Carbon Monoxide (CO)		
Nitrogen Oxides (NO _x)		
Lead (Pb)		
Particulate Matter (PM _{2.5})		
Particulate Matter (PM ₁₀)		
Total Particulate Matter (TSP)		
Sulfur Dioxide (SO ₂)		
Volatile Organic Compounds (VOC)		
Hazardous Air Pollutants	Potential Emissions	
	PPH	TPY
Regulated Pollutants other than Criteria and HAP	Potential Emissions	
	PPH	TPY

List the method(s) used to calculate the potential emissions (include dates of any stack tests conducted, versions of software used, source and dates of emission factors, etc.).

Please refer to Appendix A for emission calculations.

Applicable Requirements

List all applicable requirements for this emission unit. For each applicable requirement, include the underlying rule/regulation citation and/or **construction permit** with the condition number. (*Note: Title V permit condition numbers alone are not the underlying applicable requirements*). If an emission limit is calculated based on the type of source and design capacity or if a standard is based on a design parameter, this information should also be included.

Please refer to Table E-4. General EU Data Group 005

Permit Shield

For all applicable requirements listed above, provide monitoring/testing/recordkeeping/reporting which shall be used to demonstrate compliance. If the method is based on a permit or rule, include the condition number or citation. (*Note: Each requirement listed above must have an associated method of demonstrating compliance. If there is not already a required method in place, then a method must be proposed.*)

Please refer to Table E-4. General EU Data Group 005

Are you in compliance with all applicable requirements for this emission unit? Yes No

If no, complete the **Schedule of Compliance Form** as ATTACHMENT F.

ATTACHMENT E - Emission Unit Form

Emission Unit Description Please refer to Table E-5. General EU Data Group 006

Emission unit ID number: Group 006	Emission unit name: Product Storage (Area 8)	List any control devices associated with this emission unit:
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Provide a description of the emission unit (type, method of operation, design parameters, etc.):
Please refer to Table E-5. General EU Data Group 006

Manufacturer:	Model number:	Serial number:
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Construction date: MM/DD/YYYY	Installation date: MM/DD/YYYY	Modification date(s): MM/DD/YYYY
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Design Capacity (examples: furnaces - tons/hr, tanks - gallons):

Maximum Hourly Throughput:	Maximum Annual Throughput:	Maximum Operating Schedule:
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Fuel Usage Data (fill out all applicable fields)

Does this emission unit combust fuel? ___ Yes ___ No	If yes, is it? ___ Indirect Fired ___ Direct Fired
---	--

Maximum design heat input and/or maximum horsepower rating:	Type and Btu/hr rating of burners:
--	---

List the primary fuel type(s) and if applicable, the secondary fuel type(s). For each fuel type listed, provide the maximum hourly and annual fuel usage for each.

Describe each fuel expected to be used during the term of the permit.

Fuel Type	Max. Sulfur Content	Max. Ash Content	BTU Value

Emissions Data Please refer to Appendix A.		
Criteria Pollutants	Potential Emissions	
	PPH	TPY
Carbon Monoxide (CO)		
Nitrogen Oxides (NO _x)		
Lead (Pb)		
Particulate Matter (PM _{2.5})		
Particulate Matter (PM ₁₀)		
Total Particulate Matter (TSP)		
Sulfur Dioxide (SO ₂)		
Volatile Organic Compounds (VOC)		
Hazardous Air Pollutants	Potential Emissions	
	PPH	TPY
Regulated Pollutants other than Criteria and HAP	Potential Emissions	
	PPH	TPY

List the method(s) used to calculate the potential emissions (include dates of any stack tests conducted, versions of software used, source and dates of emission factors, etc.).

Please refer to Appendix A for emission calculations.

Applicable Requirements

List all applicable requirements for this emission unit. For each applicable requirement, include the underlying rule/regulation citation and/or construction permit with the condition number. (Note: Title V permit condition numbers alone are not the underlying applicable requirements). If an emission limit is calculated based on the type of source and design capacity or if a standard is based on a design parameter, this information should also be included.

Please refer to Table E-5. General EU Data Group 006

Permit Shield

For all applicable requirements listed above, provide monitoring/testing/recordkeeping/reporting which shall be used to demonstrate compliance. If the method is based on a permit or rule, include the condition number or citation. (Note: Each requirement listed above must have an associated method of demonstrating compliance. If there is not already a required method in place, then a method must be proposed.)

Please refer to Table E-5. General EU Data Group 006

Are you in compliance with all applicable requirements for this emission unit? Yes No

If no, complete the **Schedule of Compliance Form** as ATTACHMENT F.

Table E-1. Group 001 - Utilities

Emission Unit ID	Emission Point ID	Emission Unit Description	Control Device	Manufacturer	Model #	Serial #	Construction Date	Installation Date	Modification Date	Design Capacity	Maximum Hourly Throughput	Unit	Maximum Annual Throughput	Unit	Maximum Operating Schedule
001-02	01E	Boiler #1 -Natural Gas Steam Boiler: Model# 1VP-10B, Serial# 6380	Low NO _x Burners (Installed in 1995)	Combustion Engineering, Inc.	1VP-10B	6380	1961	1961	1995	77 MMBtu/hr	77	MMBtu/hr	674,520	MMBtu/yr	8,760
B604	75E	Boiler #4 - Natural Gas Steam Boiler: Babcock & Wilcox Model # FM 103-79	Inherent Flue Gas Recirculation	Babcock & Wilcox	FM 103-79	N/A	2011	2011	N/A	99.66 MMBtu/hr	99.66	MMBtu/hr	873,022	MMBtu/yr	8,760
001-03	70E	H-081: Nebraska Natural Gas Steam Boiler, Model# NS-A-20, Serial# D-3226	NA	Nebraska Boiler	NS-A-20	D-3226	1993	1993		6.3 MMBtu/hr	6.3	MMBtu/hr	55,188	MMBtu/yr	8,760
001-04	70E	H-082: Nebraska Natural Gas Steam Boiler, Model# NS-A-20, Serial# D-3227	NA	Nebraska Boiler	NS-A-20	D-3227	1993	1993		6.3 MMBtu/hr	6.3	MMBtu/hr	55,188	MMBtu/yr	8,760

Table E-1. Group 001 - Utilities

Emission Unit ID	Emission Point ID	Emission Unit Description	Control Device	Manufacturer	Model #	Serial #	Construction Date	Installation Date	Modification Date	Design Capacity	Maximum Hourly Throughput	Unit	Maximum Annual Throughput	Unit	Maximum Operating Schedule
EG-1	EG-1E	H9202A Emergency Generator	NA	Caterpillar	3406 B-DIT			1988		330 hp	2.25	ft ³ /hr	1.13E-03	MMft ³ /yr	500
EG-2	EG-2E	H9202B Emergency Generator	NA	Caterpillar	3406 B-DIT			1988		330 hp	2.25	ft ³ /hr	1.13E-03	MMft ³ /yr	500
EG-3	EG-3E	H516 Emergency Generator	NA	Caterpillar	3408 DITA			1998		507 hp	3.46	ft ³ /hr	1.73E-03	MMft ³ /yr	500
Cooling Tower	Fugitive	Facility Cooling Tower	NA					1961							8,760

Table E-1. Group 001 - Utilities

Emission Unit ID	Emission Point ID	Emission Unit Description	Applicable Requirements	Compliance Demonstration	Does this Unit Combust Fuel?	Direct / Indirect?	Type and Rating of Burners (Btu/hr)	Fuel Types	Usage	Max. Sulfur Content	Max. Ash Content	BTU Value
001-02	01E	Boiler #1 - Natural Gas Steam Boiler: Model# 1VP-10B, Serial# 6380	<p>45CSR2-3.1, R13-1830 Condition 4.1.14. opacity shall not exceed 10%</p> <p>45CSR2-4.1.b., R13-1830 Condition 4.1.14. 6.93 lb/hr PM</p> <p>45CSR2-9.1, 45CSR2-9.2, R13-1830 Condition 4.1.14. opacity provisions for SSM</p> <p>45CSR10-3.3.f., R13-1830 Condition 4.1.17. 246.4 lb/hr SO₂</p>	<p>45CSR2A-7.1.a.1, 45CSR2A-7.1.b, 45CSR2-8.3.c., R13-1830 Condition 4.1.14. records of fuel usage, operating schedule</p> <p>45CSR2-8.1.b., R13-1830 Condition 4.1.14. PM testing, as requested by WVDEP</p> <p>45CSR2-9.3, R13-1830 Condition 4.1.14. malfunction reports</p> <p>45CSR2-10.1, 45CSR10-9.1, R13-1830 Conditions 4.1.14. and 4.1.17. exceptions for fuel shortages</p>	Y	Indirect	77 MMBtu/hr	Natural Gas	661.3 MMscf/yr 75 Mscf/hr	NA	NA	1,020 Btu/scf
B604	75E	Boiler #4 - Natural Gas Steam Boiler: Babcock & Wilcox Model # FM 103-79	<p>45CSR2-3.1, R13-1830 Condition 4.1.14. opacity shall not exceed 10%</p> <p>45CSR2-9.1, 45CSR2-9.2, R13-1830 Condition 4.1.14. opacity provisions for SSM</p> <p>45CSR2-4.1.b., R13-1830 Condition 4.1.14. 8.97 lb/hr PM</p> <p>R13-1830 Condition 4.1.8. fire only natural gas maximum heat input 99.66 MMBtu/hr maximum natural gas usage: 700.06 mmscf/12 month prod. utilize flue gas recirculation</p> <p>R13-1830 Condition 4.1.8.5. comply with recordkeeping and reporting requirements of NSPS Dc</p> <p>R13-1830 Condition 4.1.1.75E 0.76 lb/hr, 3.32 tpy PM/PM₁₀/PM_{2.5} 0.03 lb/hr, 0.15 tpy SO₂ 4.98 lb/hr, 21.83 tpy NO_x 3.99 lb/hr, 17.46 tpy CO 0.35 lb/hr, 1.53 tpy VOC</p>	<p>45CSR2-10.1, R13-1830 Condition 4.1.14. exceptions for fuel shortages</p> <p>R13-1830 Condition 4.4.4., 40 CFR 60.48c(g)(2), 45CSR2-8.3 records of monthly, rolling 12-month natural gas usage and records of operating hours</p> <p>R13-1830 Condition 4.4.5. malfunction reports records of startup/shutdown/malfunction occurrences and duration</p> <p>45CSR2-8.1.b., R13-1830 Condition 4.1.14. PM testing, as requested by WVDEP</p> <p>R13-1830 Condition 4.1.1.75E CO testing, as requested by WVDEP NO_x testing, as requested by WVDEP</p>	Y	Indirect	99.66 MMBtu/hr	Natural Gas	873 MMscf/yr 100 Mscf/hr	NA	NA	1,000 Btu/scf
001-03	70E	H-081: Nebraska Natural Gas Steam Boiler, Model# NS-A-20, Serial# D-3226	<p>45CSR2-3.1, R13-1830 Condition 4.1.14. opacity shall not exceed 10%</p> <p>45CSR2-9.1, 45CSR2-9.2, R13-1830 Condition 4.1.14. opacity provisions for SSM</p> <p>R13-1830 Condition 4.1.5. fire only natural gas maximum steam production per boiler: 5,000 lb/hr, or maximum heat input per boiler: 6.3 MMBtu/hr</p>	<p>45CSR2-10.1, R13-1830 Condition 4.1.14. exceptions for fuel shortages</p> <p>R13-1830 Condition 4.4.4. records of monthly, rolling 12-month natural gas usage</p>	Y	Indirect	6.3 MMBtu/hr	Natural Gas	46.8 MMscf/yr 6.2 Mscf/hr	NA	NA	1,020 Btu/scf
001-04	70E	H-082: Nebraska Natural Gas Steam Boiler, Model# NS-A-20, Serial# D-3227	<p>R13-1830 Condition 4.1.6. maximum usage per boiler: 46.8 x 10⁶ ft³ of natural gas per year</p> <p>R13-1830 Condition 4.1.1.70E 0.09 lb/hr, 0.36 tpy PM₁₀ 0.01 lb/hr, 0.02 tpy SO₂ 1.24 lb/hr, 4.68 tpy NO_x 1.04 lb/hr, 3.94 tpy CO 0.14 lb/hr, 0.26 tpy VOC</p>		Y	Indirect	6.3 MMBtu/hr	Natural Gas	46.8 MMscf/yr 6.2 Mscf/hr	NA	NA	1,020 Btu/scf

Table E-1. Group 001 - Utilities

Emission Unit ID	Emission Point ID	Emission Unit Description	Applicable Requirements	Compliance Demonstration	Does this Unit Combust Fuel?	Direct / Indirect?	Type and Rating of Burners (Btu/hr)	Fuel Types	Usage	Max. Sulfur Content	Max. Ash Content	BTU Value
EG-1	EG-1E	H9202A Emergency Generator	<p>The permittee will comply with all terms and conditions of the Class II General Permit G60-C which include the following.</p> <p>Condition 5.1.1. operate according to manufacturer's recommendations</p> <p>Condition 5.1.2. emissions shall not exceed PTE listed in general permit registration</p> <p>Condition 5.1.3. rolling, 12-month fuel consumption shall not exceed limit listed in general permit registration</p> <p>40 CFR 63, Subpart ZZZZ Table 2c. -Change oil and filter every 500 hours of operation or annually, whichever comes first -Inspect air cleaner every 1,000 hours of operation or annually, whichever comes first, and replace as necessary -Inspect all hoses and belts every 500 hours of operation or annually, whichever comes first, and replace as necessary -Maintain a log for the date of each oil/filter change and inspection -Minimize idle time during startup to less than 30 minutes. -Install a non-resettable hour meter -Maintain records of hours and purpose of operation</p>	<p>The permittee will comply with all terms and conditions of the Class II General Permit G60-C which include the following.</p> <p>Condition 5.4.1. maintain records of fuel type, hours of operation</p>	Y	Direct		Diesel	<p>1.13E-03 MMft³/yr</p> <p>2.25 ft³/hr</p>			19,300 Btu/lb
EG-2	EG-2E	H9202B Emergency Generator	<p>The permittee will comply with all terms and conditions of the Class II General Permit G60-C which include the following.</p> <p>Condition 5.1.1. operate according to manufacturer's recommendations</p> <p>Condition 5.1.2. emissions shall not exceed PTE listed in general permit registration</p> <p>Condition 5.1.3. rolling, 12-month fuel consumption shall not exceed limit listed in general permit registration</p> <p>40 CFR 63, Subpart ZZZZ Table 2c. -Change oil and filter every 500 hours of operation or annually, whichever comes first -Inspect air cleaner every 1,000 hours of operation or annually, whichever comes first, and replace as necessary -Inspect all hoses and belts every 500 hours of operation or annually, whichever comes first, and replace as necessary -Maintain a log for the date of each oil/filter change and inspection -Minimize idle time during startup to less than 30 minutes. -Install a non-resettable hour meter -Maintain records of hours and purpose of operation</p>	<p>The permittee will comply with all terms and conditions of the Class II General Permit G60-C which include the following.</p> <p>Condition 5.4.1. maintain records of fuel type, hours of operation</p>	Y	Direct		Diesel	<p>1.13E-03 MMft³/yr</p> <p>2.25 ft³/hr</p>			19,300 Btu/lb
EG-3	EG-3E	H516 Emergency Generator	<p>The permittee will comply with all applicable terms and conditions of the Class II General Permit G60-C which include the following.</p> <p>Condition 5.1.1. operate according to manufacturer's recommendations</p> <p>Condition 5.1.2. emissions shall not exceed PTE listed in general permit registration</p> <p>Condition 5.1.3. rolling, 12-month fuel consumption shall not exceed limit listed in general permit registration</p> <p>40 CFR 63, Subpart ZZZZ Table 2c. -Change oil and filter every 500 hours of operation or annually, whichever comes first -Inspect air cleaner every 1,000 hours of operation or annually, whichever comes first, and replace as necessary -Inspect all hoses and belts every 500 hours of operation or annually, whichever comes first, and replace as necessary -Maintain a log for the date of each oil/filter change and inspection -Minimize idle time during startup to less than 30 minutes. -Install a non-resettable hour meter -Maintain records of hours and purpose of operation</p>	<p>The permittee will comply with all applicable terms and conditions of the Class II General Permit G60-C which include the following.</p> <p>Condition 5.4.1. maintain records of fuel type, hours of operation</p>	Y	Direct		Diesel	<p>1.73E-03 MMft³/yr</p> <p>3.46 ft³/hr</p>			19,300 Btu/lb
Cooling Tower	Fugitive	Facility Cooling Tower			N							

Table E-2. Group 002 - Raw Material Preparation (A-10, A-11, A-15 and A-16)

Emission Unit ID	Emission Point ID	Emission Unit Description	Control Device	Manufacturer	Model #	Serial #	Construction Date	Installation Date	Modification Date	Design Capacity	Maximum Hourly Throughput	Unit	Maximum Annual Throughput	Unit	Maximum Operating Schedule
B101	B101E	Nitrogen Heater	NA				1960	1960		300 TPY Propane (1.7 MMBtu/hr)	1.7	MMBtu/hr	14,892	MMBtu/yr	8,760
OSBL Flare ^a	B542E	OSBL Flare	APCD				10/6/1960	10/6/1960	5/1/1988	40,000 lb/hr ^b	40,000	lb/hr	175,200	tpy	8,760
LDAR Components (A-10, A-11, A-15, and A-16)	Fugitive	Raw Material Prep Fugitive Emissions	Fugitive				--	--		--	--				8,760
Facility-Wide Unpaved Roadways	Fugitive	Facility-Wide Unpaved Roads	NA				1960	1960		--	--				8,760
Facility-Wide Paved Roadways	Fugitive	Facility-Wide Paved Roads	NA				1960	1960		--	--				8,760

a. Although the OSBL Flare is a control device, it is included here since the applicable permit limits as well as regulatory requirements apply to the flare.

b. The OSBL Flare is designed to remain smokeless up to a capacity of 40,000 lb/hr.

Table E-2. Group 002 - Raw Material Preparation (A-10, A-11, A-15 and A-16)

Emission Unit ID	Emission Point ID	Emission Unit Description	Applicable Requirements	Compliance Demonstration	Does this Unit Combust Fuel?	Direct / Indirect?	Type and Rating of Burners (Btu/hr)	Fuel Types	Usage	Max. Sulfur Content	Max. Ash Content	BTU Value	
B101	B101E	Nitrogen Heater			Y	Indirect	1.7 MMBtu/hr	Propane	57,600 gal/yr 6.58 gal/hr	NA	NA	91,500 Btu/gal	
OSBL Flare ^a	B542E	OSBL Flare	<p>45CSR21-37, 45CSR21-38, 45CSR16, 40 CFR 60, Subpart DDD, R13-1830 Conditions 4.1.10., 4.1.11., 4.1.12., and 4.1.13. incorporation of NSPS DDD as well as NSPS VV</p> <p>40 CFR 60.562-1(a)(1)(i)(C), R13-1830 Conditions 4.1.11. control continuous and intermittent VOC emissions in a flare meeting the requirements of 40 CFR 60.18; opacity standards do not apply during periods of startup, shutdown, or malfunction</p> <p>45CSR6-4.1 and 4.3, R13-1830 Condition 4.1.15 compliance with NSPS A and DDD and R13-1830 limits streamlines compliance with 45CSR6-4.1 and 4.3</p> <p>R13-1830 Condition 4.1.1.B542E and 91E combined 108.57 lb/hr, 29.99 tpy VOC 77.06 lb/hr, 19.56 tpy CO 14.21 lb/hr, 3.82 tpy NO_x 7.91 lb/hr, 2.02 tpy PM₁₀</p> <p>R13-1830 Condition 4.1.2. maximum non-SSM VOC load to OSBL Flare and ISBL Flare: 5,000,000 pounds per year (combined)</p> <p>R13-1830 Condition 4.1.18. emissions associated with the analyzer speed loops must be controlled by the flares.</p>	<p>45CSR16, 40 CFR 60.563(a)(2), (b)(2), 60.563(c), (d) operate monitoring equipment according to manufacturer's specifications continuously monitor and record the presence of the flare or each pilot light operate flares according to their designs monthly monitoring of car-sealed valves capable of diverting vent streams from flare</p> <p>45CSR16, 40 CFR 60.565(e) records of pilot light monitoring records of extinguished flare events</p> <p>45CSR16, 40 CFR 60.565(g), (h), (i) records of changes in feedstock, catalyst, or product recovery equipment records of any change in process operation that increases the uncontrolled emission rate of the process line results of performance tests</p> <p>45CSR16, 40 CFR 60.565(k) semiannual reporting of extinguished flare events, diverted vent stream events</p> <p>R13-1830 Condition 4.2.2 Monitor heat content of OSBL flare gas using GC analyzer as a 3-hr rolling average, Monitor net heating value of the gas as outlined in 40 CFR 60.564(a)(3) and 40 CFR 60.564(f)</p> <p>R13-1830 Condition 4.4.7 Maintain 12-month rolling total of VOC loading to OSBL flare Maintain 12-month rolling total combined VOC loading to both flares</p> <p>R13-1830 Condition 4.4.8 Maintain records of 3-hr average calculated heat content of the OSBL Flare. Have at least 90% of the data during each semi-annual period</p> <p>R13-1830 Condition 4.5.1 Extension of LDAR requirements to Areas 10 and 16</p>	N	Indirect		Propane					
LDAR Components (A-10, A-11, A-15, and A-16)	Fugitive	Raw Material Prep Fugitive Emissions	<p>45CSR16, 45CSR37, 40 CFR 60, Subpart DDD, R13-1830 Conditions 4.1.10., 4.1.11., 4.1.12., and 4.1.13. Per 40 CFR 60.562-2, incorporation of NSPS VV</p> <p>CO-R21-97-44 Extension of LDAR requirements to Areas 10 and 16</p>	<p>45CSR16, 45CSR37, 40 CFR 60, Subpart DDD, R13-1830 Conditions 4.1.10., 4.1.11., 4.1.12., and 4.1.13. Per 40 CFR 60.562-2, incorporation of monitoring, recordkeeping, and reporting requirements of NSPS VV.</p>	N								
Facility-Wide Unpaved Roadways	Fugitive	Facility-Wide Unpaved Roads			N								
Facility-Wide Paved Roadways	Fugitive	Facility-Wide Paved Roads			N								

a. Although the OSBL Flare is a control device, it is included here since the applicable permit limits as well as regulatory requirements apply to the flare.

b. The OSBL Flare is designed to remain smokeless up to a capacity of 40,000 lb/hr.

Table E-3. Group 003 - Polymerization (A-91)

Emission Unit ID	Emission Point ID	Emission Unit Description	Control Device	Manufacturer	Model #	Serial #	Construction Date	Installation Date	Modification Date	Design Capacity	Maximum Hourly Throughput	Unit	Maximum Annual Throughput	Unit	Maximum Operating Schedule	Applicable Requirements	Compliance Demonstration	Does this Unit Combust Fuel?
ISBL Flare ^a	91E	ISBL Flare	APCD				1988	1988		366,000 lb/hr	366,000	lb/hr	1,603,080	tpy	8,760	<p>45CSR21-38, 45CSR16, 40 CFR 60, Subpart DDD, R13-1830 Conditions 4.1.11., 4.1.12., and 4.1.13. incorporation of NSPS DDD</p> <p>40 CFR 60.562-1(a)(2)(i), R13-1830 Condition 4.1.11. control intermittent VOC emissions in a flare that is A. designed for no visible emissions (except for periods of 5 minutes during 2 consecutive hours). B. operated with a flame present at all times, and C. designed to maintain a stable flame; opacity standards do not apply during periods of startup, shutdown, or malfunction</p> <p>45CSR6-4.1 and 4.3, R13-1830 Condition 4.1.15 compliance with NSPS DDD and R13-1830 limits streamlines compliance with 45CSR6-4.1 and 4.3</p> <p>R13-1830 Condition 4.1.1.91E and B542E combined 108.57 lb/hr, 29.99 tpy VOC 77.06 lb/hr, 19.56 tpy CO 14.21 lb/hr, 3.82 tpy NO_x 7.91 lb/hr, 2.02 tpy PM₁₀</p> <p>R13-1830 Condition 4.1.3. maximum non-SSM VOC load to ISBL Flare and OSBL Flare: 5,000,000 pounds per year (combined)</p> <p>R13-1830 Condition 4.1.5. hourly polypropylene resin production limit: 75,000 lb/hr rolling, 12-month polypropylene resin production limit: 325,000 tpy</p>	<p>45CSR16, 40 CFR 60.563(a)(2), (b)(2), 60.563(c), (d) operate monitoring equipment according to manufacturer's specifications continuously monitor and record the presence of the flare or each pilot light operate flares according to their designs monthly monitoring of car-sealed valves capable of diverting vent streams from flare</p> <p>45CSR16, 40 CFR 60.565(e) records of pilot light monitoring records of extinguished flare events</p> <p>45CSR16, 40 CFR 60.565(g) and (h) records of changes in feedstock, catalyst, or product recovery equipment records of any change in process operation that increases the uncontrolled emission rate of the process line</p> <p>45CSR16, 40 CFR 60.565(k) semiannual reporting of extinguished flare events, diverted vent stream events</p> <p>R13-1830 Condition 4.4.7 Maintain 12-month rolling total of VOC loading to ISBL flare Maintain 12-month rolling total combined VOC loading to both flares</p> <p>R13-1830 Condition 4.5.1 emergency reports</p> <p>R13-1830 Condition 4.5.2 excess emission reports</p>	While the ISBL Flare (control device) burns fuel, the actual emission sources do not. Therefore, fuel burning information has not been included in Table E-3.
DS503	82E	DS503 Vent	None				1988	1988		-	-	-	-	-	8,760	<p>40 CFR 60.562-1(a)(1)(ii) Exempt from control requirements since actual emissions are less than CTE</p>	<p>40 CFR 60.564(d) Calculations of actual emissions and CTE</p>	N
LDAR Components (A-91)	Fugitive	Poly Fugitive Emissions	Fugitive				--	--		--	--				8,760	<p>45CSR16, 45CSR37, 40 CFR 60, Subpart DDD, R13-1830 Conditions 4.1.10., 4.1.11., 4.1.12., and 4.1.13. Per 40 CFR 60.562-2, incorporation of NSPS VV</p>	<p>45CSR16, 45CSR37, 40 CFR 60, Subpart DDD, R13-1830 Conditions 4.1.10., 4.1.11., 4.1.12., and 4.1.13. Per 40 CFR 60.562-2, incorporation of monitoring, recordkeeping, and reporting requirements of NSPS VV.</p>	N

^a Although the ISBL Flare is a control device, it is included here since the applicable permit limits as well as regulatory requirements apply to the flare.

Table E-4. Group 005 - Product Finishing (A-8)

Emission Unit ID	Emission Point ID	Emission Unit Description	Control Device	Manufacturer	Model #	Serial #	Construction Date	Installation Date	Modification Date	Design Capacity	Maximum Hourly Throughput	Unit	Maximum Annual Throughput	Unit	Maximum Operating Schedule	Applicable Requirements	Compliance Demonstration	Does this Unit Combust Fuel?
L-8903	76E	L-8903 Feeder #2	Filter #2	K-Tron	KML-T80V		1994	1994	2014	75,000 lb/hr	75,000	lb/hr	325,000	tpy	8,760	45CSR7-3.1., R13-1830 Condition 4.1.16 opacity shall not exceed 20%	45CSR7-9.1., R13-1830 Condition 4.5.3. notification of opacity exceedances	N
L-8904	77E	L-8904 Feeder #3	Filter #3	K-Tron	KML-T50V		1994	1994	2014	75,000 lb/hr	75,000	lb/hr	325,000	tpy	8,760	45CSR7-4.1., Condition 4.1.1. Compliance with R13-1830 limits streamlines compliance with 45CSR7-4.1.	R13-1830 Condition 4.2.1. monthly visible emissions checks	N
L-8905	78E	L-8905 Feeder #5	Filter #5	K-Tron	K2ML-T35		1994	1994	2014	75,000 lb/hr	75,000	lb/hr	325,000	tpy	8,760	R13-1830 Condition 4.1.1.76E, 77E, 78E, 79E, 80E, 81E 0.01 lb/hr, 0.01 tpy PM ₁₀	R13-1830 Condition 4.3.4. procedures for opacity observations	N
L-8906	79E	L-8906 Feeder #6	Filter #6				1994	1994	2014	75,000 lb/hr	75,000	lb/hr	325,000	tpy	8,760		R13-1830 Condition 4.4.1. records of monitoring	N
L-8907	80E	L-8907 Feeder #7	Filter #7				1994	1994	2014	75,000 lb/hr	75,000	lb/hr	325,000	tpy	8,760		R13-1830 Condition 4.4.2. records of maintenance of air pollution control equipment	N
L-8908	81E	L-8908 Feeder #4	Filter #4	K-Tron	KML-T50V		1994	1994	2014	75,000 lb/hr	75,000	lb/hr	325,000	tpy	8,760		R13-1830 Condition 4.4.3. records of malfunction of air pollution control equipment	N
																	R13-1830 Condition 4.4.6. records of monthly visible emissions checks	N
L-8829	74E	L-8829 Blender/Conveyor	G-8830 Bag Filter				1994	1994		75,000 lb/hr	75,000	lb/hr	325,000	tpy	8,760	45CSR7-3.1., R13-1830 Condition 4.1.16 opacity shall not exceed 20%		N
																45CSR7-4.1., Condition 4.1.1. Compliance with R13-1830 limits streamlines compliance with 45CSR7-4.1.		N
																R13-1830 Condition 4.1.1.74E 0.01 lb/hr, 0.04 tpy PM ₁₀		N
Matcon-Buls Loading Booth	58E	Matcon-Buls Loading Booth (2nd Floor)	G-738 - South Dust Collector				1988	1988		1,500 lb/hr	1,500	lb/hr	6,570	tpy	8,760	45CSR7-3.1., R13-1830 Condition 4.1.16 opacity shall not exceed 20%		N
Drum Weigh Station	58E	Drum Weigh Station (3rd Floor)	G-738 - South Dust Collector				1988	1988		1,500 lb/hr	1,500	lb/hr	6,570	tpy	8,760	45CSR7-4.1., Condition 4.1.1. Compliance with R13-1830 limits streamlines compliance with 45CSR7-4.1.		N
D-8808	58E	D-8808 Feeder to R1 New Line B Ribbon Blender (3rd Floor)	G-738 - South Dust Collector				1988	1988		1,500 lb/hr	1,500	lb/hr	6,570	tpy	8,760	R13-1830 Condition 4.1.1.58E 0.18 lb/hr, 0.79 tpy PM ₁₀		N
D-8809	58E	D-8809 Feeder to R1 New Line B Ribbon Blender (3rd Floor)	G-738 - South Dust Collector				1988	1988		1,500 lb/hr	1,500	lb/hr	6,570	tpy	8,760			N
L-8829	58E	L-8829 Feeder to R1 New Line B Ribbon Blender (3rd Floor)	G-738 - South Dust Collector	Andritz Sprout-Bauer, Inc.	DA30-18	1994-00756	1988	1988		1,500 lb/hr	1,500	lb/hr	6,570	tpy	8,760			N
Matcon-Buls Unloading Booth	58E	Matcon-Buls Unloading Booth (3rd Floor)	G-738 - South Dust Collector				1988	1988		1,500 lb/hr	1,500	lb/hr	6,570	tpy	8,760			N
Portable Blower Unit #2	71E	Portable Blower Unit #2	Unnamed Cyclone #2				1980	1980		8,000 lb/hr	8,000	lb/hr	35,040	tpy	8,760	45CSR7-3.1., R13-1830 Condition 4.1.16 opacity shall not exceed 20%		N
																45CSR7-4.1., Condition 4.1.1. Compliance with R13-1830 limits streamlines compliance with 45CSR7-4.1.		N
																R13-1830 Condition 4.1.1.71E 0.80 lb/hr, 3.50 tpy PM ₁₀		N
L-8856	56E	WPB Pellet Dryer	NA				1994	1994		75,000 lb/hr	75,000	lb/hr	325,000	tpy	8,760	45CSR7-3.1., R13-1830 Condition 4.1.16 opacity shall not exceed 20%	45CSR7-9.1., R13-1830 Condition 4.5.3. notification of opacity exceedances	N
																45CSR7-4.1., Condition 4.1.1. Compliance with R13-1830 limits streamlines compliance with 45CSR7-4.1.	R13-1830 Condition 4.2.1. monthly visible emissions checks	N
																R13-1830 Condition 4.1.1.56E 5.00 lb/hr, 21.90 tpy PM ₁₀	R13-1830 Condition 4.3.4. procedures for opacity observations	N
																	R13-1830 Condition 4.4.1. records of monitoring	N
L-816B	68E	WP2 Extruder	NA				1980	1980		1,000 lb/hr	1,000	lb/hr	4,380	tpy	8,760	45CSR7-3.1., R13-1830 Condition 4.1.16 opacity shall not exceed 20%	R13-1830 Condition 4.4.6. records of monthly visible emissions checks	N
																45CSR7-4.1., Condition 4.1.1. Compliance with R13-1830 limits streamlines compliance with 45CSR7-4.1.		N
																R13-1830 Condition 4.1.1.68E 0.12 lb/hr, 0.53 tpy PM ₁₀		N
WP2 Pellet Loading Hopper	69E	WP2 Pellet Loading Hopper	NA				1980	1980		1,000 lb/hr	1,000	lb/hr	4,380	tpy	8,760	45CSR7-3.1., R13-1830 Condition 4.1.16 opacity shall not exceed 20%		N
																45CSR7-4.1., Condition 4.1.1. Compliance with R13-1830 limits streamlines compliance with 45CSR7-4.1.		N
																R13-1830 Condition 4.1.1.69E 0.12 lb/hr, 0.53 tpy PM ₁₀		N

Table E-5. Group 006 - Product Storage (A-8)

Emission Unit ID	Emission Point ID	Emission Unit Description	Control Device	Manufacturer	Model #	Serial #	Construction Date	Installation Date	Modification Date	Design Capacity	Maximum Hourly Throughput	Unit	Maximum Annual Throughput	Unit	Maximum Operating Schedule	Applicable Requirements	Compliance Demonstration	Does this Unit Combust Fuel?	
D-9003	24E	D-9003 Pellet Silo	G-9001 - Bag Filter				1990	1990		75,000 lb/hr	75,000	lb/hr	325,000	tpy	8,760	45CSR7-3.1, R13-1830 Condition 4.1.16 opacity shall not exceed 20%	45CSR7-9.1, R13-1830 Condition 4.5.3. notification of opacity exceedances	N	
D-9002	24E	D-9002 Pellet Silo	G-9001 - Bag Filter				1990	1990		75,000 lb/hr	75,000	lb/hr	325,000	tpy	8,760	45CSR7-4.1, Condition 4.1.1. Compliance with R13-1830 limits streamlines compliance with 45CSR7-4.1. R13-1830 Condition 4.1.1.24E 0.02 lb/hr, 0.09 tpy PM ₁₀	R13-1830 Condition 4.2.1. monthly visible emissions checks R13-1830 Condition 4.3.4. procedures for opacity observations	N	
D-9001	26E	D-9001 Pellet Silo	G-9002 - Bag Filter				1990	1990		75,000 lb/hr	75,000	lb/hr	325,000	tpy	8,760	45CSR7-3.1, R13-1830 Condition 4.1.16 opacity shall not exceed 20%	R13-1830 Condition 4.4.1. records of monitoring	N	
D-9004	26E	D-9004 Pellet Silo	G-9002 - Bag Filter				1990	1990		75,000 lb/hr	75,000	lb/hr	325,000	tpy	8,760	45CSR7-4.1, Condition 4.1.1. Compliance with R13-1830 limits streamlines compliance with 45CSR7-4.1. R13-1830 Condition 4.1.1.26E 0.02 lb/hr, 0.09 tpy PM ₁₀	R13-1830 Condition 4.4.2. records of maintenance of air pollution control equipment R13-1830 Condition 4.4.3. records of malfunction of air pollution control equipment	N	
D-9005	72E	D-9005 Pellet Silo	G-9003 - Bag Filter				1994	1994		75,000 lb/hr	75,000	lb/hr	325,000	tpy	8,760	45CSR7-3.1, R13-1830 Condition 4.1.16 opacity shall not exceed 20%	R13-1830 Condition 4.4.6. records of monthly visible emissions checks	N	
D-9012	72E	D-9012 Pellet Silo	G-9003 - Bag Filter				1994	1994		75,000 lb/hr	75,000	lb/hr	325,000	tpy	8,760	45CSR7-4.1, Condition 4.1.1. Compliance with R13-1830 limits streamlines compliance with 45CSR7-4.1. R13-1830 Condition 4.1.1.72E 0.02 lb/hr, 0.09 tpy PM ₁₀		N	
D-9006	38E	D-9006 Pellet Silo	G-9004 - Bag Filter				1994	1994		75,000 lb/hr	75,000	lb/hr	325,000	tpy	8,760	45CSR7-3.1, R13-1830 Condition 4.1.16 opacity shall not exceed 20%		N	
D-9011	38E	D-9011 Pellet Silo	G-9004 - Bag Filter				1994	1994		75,000 lb/hr	75,000	lb/hr	325,000	tpy	8,760	45CSR7-4.1, Condition 4.1.1. Compliance with R13-1830 limits streamlines compliance with 45CSR7-4.1. R13-1830 Condition 4.1.1.38E 0.02 lb/hr, 0.09 tpy PM ₁₀		N	
L-9501	42E	Flotriator	G-9501 - Bag Filter				1984	1984		60,000 lb/hr	60,000	lb/hr	262,800	tpy	8,760	45CSR7-3.1, R13-1830 Condition 4.1.16 opacity shall not exceed 20%		N	
D-9007	49E	D-9007 Pellet Silo	G-9005 - Bag Filter				1994	1994		75,000 lb/hr	75,000	lb/hr	325,000	tpy	8,760	45CSR7-4.1, Condition 4.1.1. Compliance with R13-1830 limits streamlines compliance with 45CSR7-4.1. R13-1830 Condition 4.1.1.42E 0.02 lb/hr, 0.09 tpy PM ₁₀		N	
D-9010	49E	D-9010 Pellet Silo	G-9005 - Bag Filter				1994	1994		75,000 lb/hr	75,000	lb/hr	325,000	tpy	8,760	45CSR7-3.1, R13-1830 Condition 4.1.16 opacity shall not exceed 20%		N	
D-9008	50E	D-9008 Pellet Silo	G-9006 - Bag Filter				1994	1994		75,000 lb/hr	75,000	lb/hr	325,000	tpy	8,760	45CSR7-4.1, Condition 4.1.1. Compliance with R13-1830 limits streamlines compliance with 45CSR7-4.1. R13-1830 Condition 4.1.1.49E 0.02 lb/hr, 0.09 tpy PM ₁₀		N	
D-9009	50E	D-9009 Pellet Silo	G-9006 - Bag Filter				1994	1994		75,000 lb/hr	75,000	lb/hr	325,000	tpy	8,760	45CSR7-3.1, R13-1830 Condition 4.1.16 opacity shall not exceed 20%		N	
L-9503	51E	Pelletron	G-9503 - Bag Filter				1994	1994		60,000 lb/hr	60,000	lb/hr	262,800	tpy	8,760	45CSR7-4.1, Condition 4.1.1. Compliance with R13-1830 limits streamlines compliance with 45CSR7-4.1. R13-1830 Condition 4.1.1.51E 3.14 lb/hr, 13.75 tpy PM ₁₀		N	
G-0904	59E	Returned Rail Car Unloading Cyclone	G-0911 - Bag Filter / G-0908 - Cartridge Filter				1980	1980		5,479 lb/hr	5,479	lb/hr	23,998	tpy	8,760	45CSR7-3.1, R13-1830 Condition 4.1.16 opacity shall not exceed 20%	45CSR7-4.1, Condition 4.1.1. Compliance with R13-1830 limits streamlines compliance with 45CSR7-4.1. R13-1830 Condition 4.1.1.59E 0.55 lb/hr, 2.40 tpy PM ₁₀		N
D-670 (SB-1)	60E	SB-1 Super Blender	NA				1978	1978		5,479 lb/hr	5,479	lb/hr	23,998	tpy	8,760	45CSR7-3.1, R13-1830 Condition 4.1.16 opacity shall not exceed 20%	45CSR7-9.1, R13-1830 Condition 4.5.3. notification of opacity exceedances R13-1830 Condition 4.2.1. monthly visible emissions checks R13-1830 Condition 4.3.4. procedures for opacity observations	N	
D-672 (SB-2)	61E	SB-2 Super Blender	NA				1981	1981		5,479 lb/hr	5,479	lb/hr	23,998	tpy	8,760	45CSR7-4.1, Condition 4.1.1. Compliance with R13-1830 limits streamlines compliance with 45CSR7-4.1. R13-1830 Condition 4.1.1.60E 0.55 lb/hr, 2.40 tpy PM ₁₀	R13-1830 Condition 4.4.1. records of monitoring R13-1830 Condition 4.4.6. records of monthly visible emissions checks	N	
SB-3	62E	Truck Loading Pellet Silo	NA				1979	1979		33,000 lb/hr	33,000	lb/hr	144,540	tpy	8,760	45CSR7-3.1, R13-1830 Condition 4.1.16 opacity shall not exceed 20%	45CSR7-4.1, Condition 4.1.1. Compliance with R13-1830 limits streamlines compliance with 45CSR7-4.1. R13-1830 Condition 4.1.1.61E 0.55 lb/hr, 2.40 tpy PM ₁₀		N
																45CSR7-4.1, Condition 4.1.1. Compliance with R13-1830 limits streamlines compliance with 45CSR7-4.1. R13-1830 Condition 4.1.1.62E 2.38 lb/hr, 10.42 tpy PM ₁₀		N	

ATTACHMENT G: AIR POLLUTION CONTROL DEVICE FORMS

ATTACHMENT G - Air Pollution Control Device Form

Control device ID number: OSBL Flare	List all emission units associated with this control device. Please refer to Table G-1.
--	---

Manufacturer:	Model number:	Installation date:
Please refer to Table G-1.		

Type of Air Pollution Control Device: Refer to Forms Data Spreadsheet, Attachment G

<input type="checkbox"/> Baghouse/Fabric Filter	<input type="checkbox"/> Venturi Scrubber	<input type="checkbox"/> Multiclone
<input type="checkbox"/> Carbon Bed Adsorber	<input type="checkbox"/> Packed Tower Scrubber	<input type="checkbox"/> Single Cyclone
<input type="checkbox"/> Carbon Drum(s)	<input type="checkbox"/> Other Wet Scrubber	<input type="checkbox"/> Cyclone Bank
<input type="checkbox"/> Catalytic Incinerator	<input type="checkbox"/> Condenser	<input type="checkbox"/> Settling Chamber
<input type="checkbox"/> Thermal Incinerator	<input type="checkbox"/> Flare	<input type="checkbox"/> Other (describe) _____
<input type="checkbox"/> Wet Plate Electrostatic Precipitator	<input type="checkbox"/> Dry Plate Electrostatic Precipitator	

List the pollutants for which this device is intended to control and the capture and control efficiencies.

Pollutant	Capture Efficiency	Control Efficiency
Please refer to Table G-1.		

Explain the characteristic design parameters of this control device (flow rates, pressure drops, number of bags, size, temperatures, etc.).

Please refer to Table G-1.

Is this device subject to the CAM requirements of 40 C.F.R. 64? Yes No

If Yes, **Complete ATTACHMENT H**

If No, **Provide justification.**

Describe the parameters monitored and/or methods used to indicate performance of this control device.

Please refer to Table G-1.

ATTACHMENT G - Air Pollution Control Device Form

Control device ID number: ISBL Flare	List all emission units associated with this control device. Please refer to Table G-1.
--	---

Manufacturer:	Model number:	Installation date:
Please refer to Table G-1.		

Type of Air Pollution Control Device: Refer to Forms Data Spreadsheet, Attachment G

<input type="checkbox"/> Baghouse/Fabric Filter	<input type="checkbox"/> Venturi Scrubber	<input type="checkbox"/> Multiclone
<input type="checkbox"/> Carbon Bed Adsorber	<input type="checkbox"/> Packed Tower Scrubber	<input type="checkbox"/> Single Cyclone
<input type="checkbox"/> Carbon Drum(s)	<input type="checkbox"/> Other Wet Scrubber	<input type="checkbox"/> Cyclone Bank
<input type="checkbox"/> Catalytic Incinerator	<input type="checkbox"/> Condenser	<input type="checkbox"/> Settling Chamber
<input type="checkbox"/> Thermal Incinerator	<input type="checkbox"/> Flare	<input type="checkbox"/> Other (describe) _____
<input type="checkbox"/> Wet Plate Electrostatic Precipitator	<input type="checkbox"/> Dry Plate Electrostatic Precipitator	

List the pollutants for which this device is intended to control and the capture and control efficiencies.

Pollutant	Capture Efficiency	Control Efficiency
Please refer to Table G-1.		

Explain the characteristic design parameters of this control device (flow rates, pressure drops, number of bags, size, temperatures, etc.).

Please refer to Table G-1.

Is this device subject to the CAM requirements of 40 C.F.R. 64? Yes No

If Yes, **Complete ATTACHMENT H – Included in 2010 renewal application**

If No, **Provide justification.**

Describe the parameters monitored and/or methods used to indicate performance of this control device.

Please refer to Table G-1.

ATTACHMENT G - Air Pollution Control Device Form

Control device ID number: Filter #2	List all emission units associated with this control device. Please refer to Table G-1.
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Manufacturer:	Model number:	Installation date:
Please refer to Table G-1.		

Type of Air Pollution Control Device: Refer to Forms Data Spreadsheet, Attachment G

<input type="checkbox"/> Baghouse/Fabric Filter	<input type="checkbox"/> Venturi Scrubber	<input type="checkbox"/> Multiclone
<input type="checkbox"/> Carbon Bed Adsorber	<input type="checkbox"/> Packed Tower Scrubber	<input type="checkbox"/> Single Cyclone
<input type="checkbox"/> Carbon Drum(s)	<input type="checkbox"/> Other Wet Scrubber	<input type="checkbox"/> Cyclone Bank
<input type="checkbox"/> Catalytic Incinerator	<input type="checkbox"/> Condenser	<input type="checkbox"/> Settling Chamber
<input type="checkbox"/> Thermal Incinerator	<input type="checkbox"/> Flare	<input type="checkbox"/> Other (describe) _____
<input type="checkbox"/> Wet Plate Electrostatic Precipitator	<input type="checkbox"/> Dry Plate Electrostatic Precipitator	

List the pollutants for which this device is intended to control and the capture and control efficiencies.

Pollutant	Capture Efficiency	Control Efficiency
Please refer to Table G-1.		

Explain the characteristic design parameters of this control device (flow rates, pressure drops, number of bags, size, temperatures, etc.).

Please refer to Table G-1.

Is this device subject to the CAM requirements of 40 C.F.R. 64? Yes No

If Yes, **Complete ATTACHMENT H**

If No, **Provide justification.**

Describe the parameters monitored and/or methods used to indicate performance of this control device.

Please refer to Table G-1.

ATTACHMENT G - Air Pollution Control Device Form

Control device ID number: Filter #3	List all emission units associated with this control device. Please refer to Table G-1.
---	---

Manufacturer:	Model number:	Installation date:
Please refer to Table G-1.		

Type of Air Pollution Control Device: Refer to Forms Data Spreadsheet, Attachment G

<input type="checkbox"/> Baghouse/Fabric Filter	<input type="checkbox"/> Venturi Scrubber	<input type="checkbox"/> Multiclone
<input type="checkbox"/> Carbon Bed Adsorber	<input type="checkbox"/> Packed Tower Scrubber	<input type="checkbox"/> Single Cyclone
<input type="checkbox"/> Carbon Drum(s)	<input type="checkbox"/> Other Wet Scrubber	<input type="checkbox"/> Cyclone Bank
<input type="checkbox"/> Catalytic Incinerator	<input type="checkbox"/> Condenser	<input type="checkbox"/> Settling Chamber
<input type="checkbox"/> Thermal Incinerator	<input type="checkbox"/> Flare	<input type="checkbox"/> Other (describe) _____
<input type="checkbox"/> Wet Plate Electrostatic Precipitator	<input type="checkbox"/> Dry Plate Electrostatic Precipitator	

List the pollutants for which this device is intended to control and the capture and control efficiencies.

Pollutant	Capture Efficiency	Control Efficiency
Please refer to Table G-1.		

Explain the characteristic design parameters of this control device (flow rates, pressure drops, number of bags, size, temperatures, etc.).

Please refer to Table G-1.

Is this device subject to the CAM requirements of 40 C.F.R. 64? Yes No

If Yes, **Complete ATTACHMENT H**

If No, **Provide justification.**

Describe the parameters monitored and/or methods used to indicate performance of this control device.

Please refer to Table G-1.

ATTACHMENT G - Air Pollution Control Device Form

Control device ID number: Filter #5	List all emission units associated with this control device. Please refer to Table G-1.
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Manufacturer:	Model number:	Installation date:
Please refer to Table G-1.		

Type of Air Pollution Control Device: Refer to Forms Data Spreadsheet, Attachment G

<input type="checkbox"/> Baghouse/Fabric Filter	<input type="checkbox"/> Venturi Scrubber	<input type="checkbox"/> Multiclone
<input type="checkbox"/> Carbon Bed Adsorber	<input type="checkbox"/> Packed Tower Scrubber	<input type="checkbox"/> Single Cyclone
<input type="checkbox"/> Carbon Drum(s)	<input type="checkbox"/> Other Wet Scrubber	<input type="checkbox"/> Cyclone Bank
<input type="checkbox"/> Catalytic Incinerator	<input type="checkbox"/> Condenser	<input type="checkbox"/> Settling Chamber
<input type="checkbox"/> Thermal Incinerator	<input type="checkbox"/> Flare	<input type="checkbox"/> Other (describe) _____
<input type="checkbox"/> Wet Plate Electrostatic Precipitator	<input type="checkbox"/> Dry Plate Electrostatic Precipitator	

List the pollutants for which this device is intended to control and the capture and control efficiencies.

Pollutant	Capture Efficiency	Control Efficiency
Please refer to Table G-1.		

Explain the characteristic design parameters of this control device (flow rates, pressure drops, number of bags, size, temperatures, etc.).

Please refer to Table G-1.

Is this device subject to the CAM requirements of 40 C.F.R. 64? Yes No

If Yes, **Complete ATTACHMENT H**

If No, **Provide justification.**

Describe the parameters monitored and/or methods used to indicate performance of this control device.

Please refer to Table G-1.

ATTACHMENT G - Air Pollution Control Device Form

Control device ID number: Filter #6	List all emission units associated with this control device. Please refer to Table G-1.
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Manufacturer:	Model number:	Installation date:
Please refer to Table G-1.		

Type of Air Pollution Control Device: Refer to Forms Data Spreadsheet, Attachment G

<input type="checkbox"/> Baghouse/Fabric Filter	<input type="checkbox"/> Venturi Scrubber	<input type="checkbox"/> Multiclone
<input type="checkbox"/> Carbon Bed Adsorber	<input type="checkbox"/> Packed Tower Scrubber	<input type="checkbox"/> Single Cyclone
<input type="checkbox"/> Carbon Drum(s)	<input type="checkbox"/> Other Wet Scrubber	<input type="checkbox"/> Cyclone Bank
<input type="checkbox"/> Catalytic Incinerator	<input type="checkbox"/> Condenser	<input type="checkbox"/> Settling Chamber
<input type="checkbox"/> Thermal Incinerator	<input type="checkbox"/> Flare	<input type="checkbox"/> Other (describe) _____
<input type="checkbox"/> Wet Plate Electrostatic Precipitator	<input type="checkbox"/> Dry Plate Electrostatic Precipitator	

List the pollutants for which this device is intended to control and the capture and control efficiencies.

Pollutant	Capture Efficiency	Control Efficiency
Please refer to Table G-1.		

Explain the characteristic design parameters of this control device (flow rates, pressure drops, number of bags, size, temperatures, etc.).

Please refer to Table G-1.

Is this device subject to the CAM requirements of 40 C.F.R. 64? Yes No

If Yes, **Complete ATTACHMENT H**

If No, **Provide justification.**

Describe the parameters monitored and/or methods used to indicate performance of this control device.

Please refer to Table G-1.

ATTACHMENT G - Air Pollution Control Device Form

Control device ID number: Filter #7	List all emission units associated with this control device. Please refer to Table G-1.
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Manufacturer:	Model number:	Installation date:
Please refer to Table G-1.		

Type of Air Pollution Control Device: Refer to Forms Data Spreadsheet, Attachment G

<input type="checkbox"/> Baghouse/Fabric Filter	<input type="checkbox"/> Venturi Scrubber	<input type="checkbox"/> Multiclone
<input type="checkbox"/> Carbon Bed Adsorber	<input type="checkbox"/> Packed Tower Scrubber	<input type="checkbox"/> Single Cyclone
<input type="checkbox"/> Carbon Drum(s)	<input type="checkbox"/> Other Wet Scrubber	<input type="checkbox"/> Cyclone Bank
<input type="checkbox"/> Catalytic Incinerator	<input type="checkbox"/> Condenser	<input type="checkbox"/> Settling Chamber
<input type="checkbox"/> Thermal Incinerator	<input type="checkbox"/> Flare	<input type="checkbox"/> Other (describe) _____
<input type="checkbox"/> Wet Plate Electrostatic Precipitator	<input type="checkbox"/> Dry Plate Electrostatic Precipitator	

List the pollutants for which this device is intended to control and the capture and control efficiencies.

Pollutant	Capture Efficiency	Control Efficiency
Please refer to Table G-1.		

Explain the characteristic design parameters of this control device (flow rates, pressure drops, number of bags, size, temperatures, etc.).

Please refer to Table G-1.

Is this device subject to the CAM requirements of 40 C.F.R. 64? Yes No

If Yes, **Complete ATTACHMENT H**

If No, **Provide justification.**

Describe the parameters monitored and/or methods used to indicate performance of this control device.

Please refer to Table G-1.

ATTACHMENT G - Air Pollution Control Device Form

Control device ID number: Filter #4	List all emission units associated with this control device. Please refer to Table G-1.
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Manufacturer:	Model number:	Installation date:
Please refer to Table G-1.		

Type of Air Pollution Control Device: Refer to Forms Data Spreadsheet, Attachment G

<input type="checkbox"/> Baghouse/Fabric Filter	<input type="checkbox"/> Venturi Scrubber	<input type="checkbox"/> Multiclone
<input type="checkbox"/> Carbon Bed Adsorber	<input type="checkbox"/> Packed Tower Scrubber	<input type="checkbox"/> Single Cyclone
<input type="checkbox"/> Carbon Drum(s)	<input type="checkbox"/> Other Wet Scrubber	<input type="checkbox"/> Cyclone Bank
<input type="checkbox"/> Catalytic Incinerator	<input type="checkbox"/> Condenser	<input type="checkbox"/> Settling Chamber
<input type="checkbox"/> Thermal Incinerator	<input type="checkbox"/> Flare	<input type="checkbox"/> Other (describe) _____
<input type="checkbox"/> Wet Plate Electrostatic Precipitator	<input type="checkbox"/> Dry Plate Electrostatic Precipitator	

List the pollutants for which this device is intended to control and the capture and control efficiencies.

Pollutant	Capture Efficiency	Control Efficiency
Please refer to Table G-1.		

Explain the characteristic design parameters of this control device (flow rates, pressure drops, number of bags, size, temperatures, etc.).

Please refer to Table G-1.

Is this device subject to the CAM requirements of 40 C.F.R. 64? Yes No

If Yes, **Complete ATTACHMENT H**

If No, **Provide justification.**

Describe the parameters monitored and/or methods used to indicate performance of this control device.

Please refer to Table G-1.

ATTACHMENT G - Air Pollution Control Device Form

Control device ID number: G-8830	List all emission units associated with this control device. Please refer to Table G-1.
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Manufacturer:	Model number:	Installation date:
Please refer to Table G-1.		

Type of Air Pollution Control Device: Refer to Forms Data Spreadsheet, Attachment G

<input type="checkbox"/> Baghouse/Fabric Filter	<input type="checkbox"/> Venturi Scrubber	<input type="checkbox"/> Multiclone
<input type="checkbox"/> Carbon Bed Adsorber	<input type="checkbox"/> Packed Tower Scrubber	<input type="checkbox"/> Single Cyclone
<input type="checkbox"/> Carbon Drum(s)	<input type="checkbox"/> Other Wet Scrubber	<input type="checkbox"/> Cyclone Bank
<input type="checkbox"/> Catalytic Incinerator	<input type="checkbox"/> Condenser	<input type="checkbox"/> Settling Chamber
<input type="checkbox"/> Thermal Incinerator	<input type="checkbox"/> Flare	<input type="checkbox"/> Other (describe) _____
<input type="checkbox"/> Wet Plate Electrostatic Precipitator	<input type="checkbox"/> Dry Plate Electrostatic Precipitator	

List the pollutants for which this device is intended to control and the capture and control efficiencies.

Pollutant	Capture Efficiency	Control Efficiency
Please refer to Table G-1.		

Explain the characteristic design parameters of this control device (flow rates, pressure drops, number of bags, size, temperatures, etc.).

Please refer to Table G-1.

Is this device subject to the CAM requirements of 40 C.F.R. 64? Yes No

If Yes, **Complete ATTACHMENT H**

If No, **Provide justification.**

Describe the parameters monitored and/or methods used to indicate performance of this control device.

Please refer to Table G-1.

ATTACHMENT G - Air Pollution Control Device Form

Control device ID number: G-738	List all emission units associated with this control device. Please refer to Table G-1.
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Manufacturer:	Model number:	Installation date:
Please refer to Table G-1.		

Type of Air Pollution Control Device: Refer to Forms Data Spreadsheet, Attachment G

<input type="checkbox"/> Baghouse/Fabric Filter	<input type="checkbox"/> Venturi Scrubber	<input type="checkbox"/> Multiclone
<input type="checkbox"/> Carbon Bed Adsorber	<input type="checkbox"/> Packed Tower Scrubber	<input type="checkbox"/> Single Cyclone
<input type="checkbox"/> Carbon Drum(s)	<input type="checkbox"/> Other Wet Scrubber	<input type="checkbox"/> Cyclone Bank
<input type="checkbox"/> Catalytic Incinerator	<input type="checkbox"/> Condenser	<input type="checkbox"/> Settling Chamber
<input type="checkbox"/> Thermal Incinerator	<input type="checkbox"/> Flare	<input type="checkbox"/> Other (describe) _____
<input type="checkbox"/> Wet Plate Electrostatic Precipitator	<input type="checkbox"/> Dry Plate Electrostatic Precipitator	

List the pollutants for which this device is intended to control and the capture and control efficiencies.

Pollutant	Capture Efficiency	Control Efficiency
Please refer to Table G-1.		

Explain the characteristic design parameters of this control device (flow rates, pressure drops, number of bags, size, temperatures, etc.).

Please refer to Table G-1.

Is this device subject to the CAM requirements of 40 C.F.R. 64? Yes No

If Yes, **Complete ATTACHMENT H**

If No, **Provide justification.**

Describe the parameters monitored and/or methods used to indicate performance of this control device.

Please refer to Table G-1.

ATTACHMENT G - Air Pollution Control Device Form

Control device ID number: Unnamed Cyclone #2	List all emission units associated with this control device. Please refer to Table G-1.
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Manufacturer:	Model number:	Installation date:
Please refer to Table G-1.		

Type of Air Pollution Control Device: Refer to Forms Data Spreadsheet, Attachment G

<input type="checkbox"/> Baghouse/Fabric Filter	<input type="checkbox"/> Venturi Scrubber	<input type="checkbox"/> Multiclone
<input type="checkbox"/> Carbon Bed Adsorber	<input type="checkbox"/> Packed Tower Scrubber	<input type="checkbox"/> Single Cyclone
<input type="checkbox"/> Carbon Drum(s)	<input type="checkbox"/> Other Wet Scrubber	<input type="checkbox"/> Cyclone Bank
<input type="checkbox"/> Catalytic Incinerator	<input type="checkbox"/> Condenser	<input type="checkbox"/> Settling Chamber
<input type="checkbox"/> Thermal Incinerator	<input type="checkbox"/> Flare	<input type="checkbox"/> Other (describe) _____
<input type="checkbox"/> Wet Plate Electrostatic Precipitator	<input type="checkbox"/> Dry Plate Electrostatic Precipitator	

List the pollutants for which this device is intended to control and the capture and control efficiencies.

Pollutant	Capture Efficiency	Control Efficiency
Please refer to Table G-1.		

Explain the characteristic design parameters of this control device (flow rates, pressure drops, number of bags, size, temperatures, etc.).

Please refer to Table G-1.

Is this device subject to the CAM requirements of 40 C.F.R. 64? Yes No

If Yes, **Complete ATTACHMENT H**

If No, **Provide justification.**

Describe the parameters monitored and/or methods used to indicate performance of this control device.

Please refer to Table G-1.

ATTACHMENT G - Air Pollution Control Device Form

Control device ID number: G-9001	List all emission units associated with this control device. Please refer to Table G-1.
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Manufacturer:	Model number:	Installation date:
Please refer to Table G-1.		

Type of Air Pollution Control Device: Refer to Forms Data Spreadsheet, Attachment G

<input type="checkbox"/> Baghouse/Fabric Filter	<input type="checkbox"/> Venturi Scrubber	<input type="checkbox"/> Multiclone
<input type="checkbox"/> Carbon Bed Adsorber	<input type="checkbox"/> Packed Tower Scrubber	<input type="checkbox"/> Single Cyclone
<input type="checkbox"/> Carbon Drum(s)	<input type="checkbox"/> Other Wet Scrubber	<input type="checkbox"/> Cyclone Bank
<input type="checkbox"/> Catalytic Incinerator	<input type="checkbox"/> Condenser	<input type="checkbox"/> Settling Chamber
<input type="checkbox"/> Thermal Incinerator	<input type="checkbox"/> Flare	<input type="checkbox"/> Other (describe) _____
<input type="checkbox"/> Wet Plate Electrostatic Precipitator	<input type="checkbox"/> Dry Plate Electrostatic Precipitator	

List the pollutants for which this device is intended to control and the capture and control efficiencies.

Pollutant	Capture Efficiency	Control Efficiency
Please refer to Table G-1.		

Explain the characteristic design parameters of this control device (flow rates, pressure drops, number of bags, size, temperatures, etc.).

Please refer to Table G-1.

Is this device subject to the CAM requirements of 40 C.F.R. 64? Yes No

If Yes, **Complete ATTACHMENT H**

If No, **Provide justification.**

Describe the parameters monitored and/or methods used to indicate performance of this control device.

Please refer to Table G-1.

ATTACHMENT G - Air Pollution Control Device Form

Control device ID number: G-9002	List all emission units associated with this control device. Please refer to Table G-1.
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Manufacturer:	Model number:	Installation date:
Please refer to Table G-1.		

Type of Air Pollution Control Device: Refer to Forms Data Spreadsheet, Attachment G

<input type="checkbox"/> Baghouse/Fabric Filter	<input type="checkbox"/> Venturi Scrubber	<input type="checkbox"/> Multiclone
<input type="checkbox"/> Carbon Bed Adsorber	<input type="checkbox"/> Packed Tower Scrubber	<input type="checkbox"/> Single Cyclone
<input type="checkbox"/> Carbon Drum(s)	<input type="checkbox"/> Other Wet Scrubber	<input type="checkbox"/> Cyclone Bank
<input type="checkbox"/> Catalytic Incinerator	<input type="checkbox"/> Condenser	<input type="checkbox"/> Settling Chamber
<input type="checkbox"/> Thermal Incinerator	<input type="checkbox"/> Flare	<input type="checkbox"/> Other (describe) _____
<input type="checkbox"/> Wet Plate Electrostatic Precipitator	<input type="checkbox"/> Dry Plate Electrostatic Precipitator	

List the pollutants for which this device is intended to control and the capture and control efficiencies.

Pollutant	Capture Efficiency	Control Efficiency
Please refer to Table G-1.		

Explain the characteristic design parameters of this control device (flow rates, pressure drops, number of bags, size, temperatures, etc.).

Please refer to Table G-1.

Is this device subject to the CAM requirements of 40 C.F.R. 64? Yes No

If Yes, **Complete ATTACHMENT H**

If No, **Provide justification.**

Describe the parameters monitored and/or methods used to indicate performance of this control device.

Please refer to Table G-1.

ATTACHMENT G - Air Pollution Control Device Form

Control device ID number: G-9003	List all emission units associated with this control device. Please refer to Table G-1.
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Manufacturer:	Model number:	Installation date:
Please refer to Table G-1.		

Type of Air Pollution Control Device: Refer to Forms Data Spreadsheet, Attachment G

<input type="checkbox"/> Baghouse/Fabric Filter	<input type="checkbox"/> Venturi Scrubber	<input type="checkbox"/> Multiclone
<input type="checkbox"/> Carbon Bed Adsorber	<input type="checkbox"/> Packed Tower Scrubber	<input type="checkbox"/> Single Cyclone
<input type="checkbox"/> Carbon Drum(s)	<input type="checkbox"/> Other Wet Scrubber	<input type="checkbox"/> Cyclone Bank
<input type="checkbox"/> Catalytic Incinerator	<input type="checkbox"/> Condenser	<input type="checkbox"/> Settling Chamber
<input type="checkbox"/> Thermal Incinerator	<input type="checkbox"/> Flare	<input type="checkbox"/> Other (describe) _____
<input type="checkbox"/> Wet Plate Electrostatic Precipitator	<input type="checkbox"/> Dry Plate Electrostatic Precipitator	

List the pollutants for which this device is intended to control and the capture and control efficiencies.

Pollutant	Capture Efficiency	Control Efficiency
Please refer to Table G-1.		

Explain the characteristic design parameters of this control device (flow rates, pressure drops, number of bags, size, temperatures, etc.).

Please refer to Table G-1.

Is this device subject to the CAM requirements of 40 C.F.R. 64? Yes No

If Yes, **Complete ATTACHMENT H**

If No, **Provide justification.**

Describe the parameters monitored and/or methods used to indicate performance of this control device.

Please refer to Table G-1.

ATTACHMENT G - Air Pollution Control Device Form

Control device ID number: G-9004	List all emission units associated with this control device. Please refer to Table G-1.
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Manufacturer:	Model number:	Installation date:
Please refer to Table G-1.		

Type of Air Pollution Control Device: Refer to Forms Data Spreadsheet, Attachment G

<input type="checkbox"/> Baghouse/Fabric Filter	<input type="checkbox"/> Venturi Scrubber	<input type="checkbox"/> Multiclone
<input type="checkbox"/> Carbon Bed Adsorber	<input type="checkbox"/> Packed Tower Scrubber	<input type="checkbox"/> Single Cyclone
<input type="checkbox"/> Carbon Drum(s)	<input type="checkbox"/> Other Wet Scrubber	<input type="checkbox"/> Cyclone Bank
<input type="checkbox"/> Catalytic Incinerator	<input type="checkbox"/> Condenser	<input type="checkbox"/> Settling Chamber
<input type="checkbox"/> Thermal Incinerator	<input type="checkbox"/> Flare	<input type="checkbox"/> Other (describe) _____
<input type="checkbox"/> Wet Plate Electrostatic Precipitator	<input type="checkbox"/> Dry Plate Electrostatic Precipitator	

List the pollutants for which this device is intended to control and the capture and control efficiencies.

Pollutant	Capture Efficiency	Control Efficiency
Please refer to Table G-1.		

Explain the characteristic design parameters of this control device (flow rates, pressure drops, number of bags, size, temperatures, etc.).

Please refer to Table G-1.

Is this device subject to the CAM requirements of 40 C.F.R. 64? Yes No

If Yes, **Complete ATTACHMENT H**

If No, **Provide justification.**

Describe the parameters monitored and/or methods used to indicate performance of this control device.

Please refer to Table G-1.

ATTACHMENT G - Air Pollution Control Device Form

Control device ID number: G-9501	List all emission units associated with this control device. Please refer to Table G-1.
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Manufacturer:	Model number:	Installation date:
Please refer to Table G-1.		

Type of Air Pollution Control Device: Refer to Forms Data Spreadsheet, Attachment G

<input type="checkbox"/> Baghouse/Fabric Filter	<input type="checkbox"/> Venturi Scrubber	<input type="checkbox"/> Multiclone
<input type="checkbox"/> Carbon Bed Adsorber	<input type="checkbox"/> Packed Tower Scrubber	<input type="checkbox"/> Single Cyclone
<input type="checkbox"/> Carbon Drum(s)	<input type="checkbox"/> Other Wet Scrubber	<input type="checkbox"/> Cyclone Bank
<input type="checkbox"/> Catalytic Incinerator	<input type="checkbox"/> Condenser	<input type="checkbox"/> Settling Chamber
<input type="checkbox"/> Thermal Incinerator	<input type="checkbox"/> Flare	<input type="checkbox"/> Other (describe) _____
<input type="checkbox"/> Wet Plate Electrostatic Precipitator	<input type="checkbox"/> Dry Plate Electrostatic Precipitator	

List the pollutants for which this device is intended to control and the capture and control efficiencies.

Pollutant	Capture Efficiency	Control Efficiency
Please refer to Table G-1.		

Explain the characteristic design parameters of this control device (flow rates, pressure drops, number of bags, size, temperatures, etc.).

Please refer to Table G-1.

Is this device subject to the CAM requirements of 40 C.F.R. 64? Yes No

If Yes, **Complete ATTACHMENT H**

If No, **Provide justification.**

Describe the parameters monitored and/or methods used to indicate performance of this control device.

Please refer to Table G-1.

ATTACHMENT G - Air Pollution Control Device Form

Control device ID number: G-9005	List all emission units associated with this control device. Please refer to Table G-1.
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Manufacturer:	Model number:	Installation date:
Please refer to Table G-1.		

Type of Air Pollution Control Device: Refer to Forms Data Spreadsheet, Attachment G

<input type="checkbox"/> Baghouse/Fabric Filter	<input type="checkbox"/> Venturi Scrubber	<input type="checkbox"/> Multiclone
<input type="checkbox"/> Carbon Bed Adsorber	<input type="checkbox"/> Packed Tower Scrubber	<input type="checkbox"/> Single Cyclone
<input type="checkbox"/> Carbon Drum(s)	<input type="checkbox"/> Other Wet Scrubber	<input type="checkbox"/> Cyclone Bank
<input type="checkbox"/> Catalytic Incinerator	<input type="checkbox"/> Condenser	<input type="checkbox"/> Settling Chamber
<input type="checkbox"/> Thermal Incinerator	<input type="checkbox"/> Flare	<input type="checkbox"/> Other (describe) _____
<input type="checkbox"/> Wet Plate Electrostatic Precipitator	<input type="checkbox"/> Dry Plate Electrostatic Precipitator	

List the pollutants for which this device is intended to control and the capture and control efficiencies.

Pollutant	Capture Efficiency	Control Efficiency
Please refer to Table G-1.		

Explain the characteristic design parameters of this control device (flow rates, pressure drops, number of bags, size, temperatures, etc.).

Please refer to Table G-1.

Is this device subject to the CAM requirements of 40 C.F.R. 64? Yes No

If Yes, **Complete ATTACHMENT H**

If No, **Provide justification.**

Describe the parameters monitored and/or methods used to indicate performance of this control device.

Please refer to Table G-1.

ATTACHMENT G - Air Pollution Control Device Form

Control device ID number: G-9006	List all emission units associated with this control device. Please refer to Table G-1.
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Manufacturer:	Model number:	Installation date:
Please refer to Table G-1.		

Type of Air Pollution Control Device: Refer to Forms Data Spreadsheet, Attachment G

<input type="checkbox"/> Baghouse/Fabric Filter	<input type="checkbox"/> Venturi Scrubber	<input type="checkbox"/> Multiclone
<input type="checkbox"/> Carbon Bed Adsorber	<input type="checkbox"/> Packed Tower Scrubber	<input type="checkbox"/> Single Cyclone
<input type="checkbox"/> Carbon Drum(s)	<input type="checkbox"/> Other Wet Scrubber	<input type="checkbox"/> Cyclone Bank
<input type="checkbox"/> Catalytic Incinerator	<input type="checkbox"/> Condenser	<input type="checkbox"/> Settling Chamber
<input type="checkbox"/> Thermal Incinerator	<input type="checkbox"/> Flare	<input type="checkbox"/> Other (describe) _____
<input type="checkbox"/> Wet Plate Electrostatic Precipitator	<input type="checkbox"/> Dry Plate Electrostatic Precipitator	

List the pollutants for which this device is intended to control and the capture and control efficiencies.

Pollutant	Capture Efficiency	Control Efficiency
Please refer to Table G-1.		

Explain the characteristic design parameters of this control device (flow rates, pressure drops, number of bags, size, temperatures, etc.).

Please refer to Table G-1.

Is this device subject to the CAM requirements of 40 C.F.R. 64? Yes No

If Yes, **Complete ATTACHMENT H**

If No, **Provide justification.**

Describe the parameters monitored and/or methods used to indicate performance of this control device.

Please refer to Table G-1.

ATTACHMENT G - Air Pollution Control Device Form

Control device ID number: G-9503	List all emission units associated with this control device. Please refer to Table G-1.
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Manufacturer:	Model number:	Installation date:
Please refer to Table G-1.		

Type of Air Pollution Control Device: Refer to Forms Data Spreadsheet, Attachment G

<input type="checkbox"/> Baghouse/Fabric Filter	<input type="checkbox"/> Venturi Scrubber	<input type="checkbox"/> Multiclone
<input type="checkbox"/> Carbon Bed Adsorber	<input type="checkbox"/> Packed Tower Scrubber	<input type="checkbox"/> Single Cyclone
<input type="checkbox"/> Carbon Drum(s)	<input type="checkbox"/> Other Wet Scrubber	<input type="checkbox"/> Cyclone Bank
<input type="checkbox"/> Catalytic Incinerator	<input type="checkbox"/> Condenser	<input type="checkbox"/> Settling Chamber
<input type="checkbox"/> Thermal Incinerator	<input type="checkbox"/> Flare	<input type="checkbox"/> Other (describe) _____
<input type="checkbox"/> Wet Plate Electrostatic Precipitator	<input type="checkbox"/> Dry Plate Electrostatic Precipitator	

List the pollutants for which this device is intended to control and the capture and control efficiencies.

Pollutant	Capture Efficiency	Control Efficiency
Please refer to Table G-1.		

Explain the characteristic design parameters of this control device (flow rates, pressure drops, number of bags, size, temperatures, etc.).

Please refer to Table G-1.

Is this device subject to the CAM requirements of 40 C.F.R. 64? Yes No

If Yes, **Complete ATTACHMENT H**

If No, **Provide justification.**

Describe the parameters monitored and/or methods used to indicate performance of this control device.

Please refer to Table G-1.

ATTACHMENT G - Air Pollution Control Device Form

Control device ID number: G-0908	List all emission units associated with this control device. Please refer to Table G-1.
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Manufacturer:	Model number:	Installation date:
Please refer to Table G-1.		

Type of Air Pollution Control Device: Refer to Forms Data Spreadsheet, Attachment G

<input type="checkbox"/> Baghouse/Fabric Filter	<input type="checkbox"/> Venturi Scrubber	<input type="checkbox"/> Multiclone
<input type="checkbox"/> Carbon Bed Adsorber	<input type="checkbox"/> Packed Tower Scrubber	<input type="checkbox"/> Single Cyclone
<input type="checkbox"/> Carbon Drum(s)	<input type="checkbox"/> Other Wet Scrubber	<input type="checkbox"/> Cyclone Bank
<input type="checkbox"/> Catalytic Incinerator	<input type="checkbox"/> Condenser	<input type="checkbox"/> Settling Chamber
<input type="checkbox"/> Thermal Incinerator	<input type="checkbox"/> Flare	<input type="checkbox"/> Other (describe) _____
<input type="checkbox"/> Wet Plate Electrostatic Precipitator	<input type="checkbox"/> Dry Plate Electrostatic Precipitator	

List the pollutants for which this device is intended to control and the capture and control efficiencies.

Pollutant	Capture Efficiency	Control Efficiency
Please refer to Table G-1.		

Explain the characteristic design parameters of this control device (flow rates, pressure drops, number of bags, size, temperatures, etc.).

Please refer to Table G-1.

Is this device subject to the CAM requirements of 40 C.F.R. 64? Yes No

If Yes, **Complete ATTACHMENT H**

If No, **Provide justification.**

Describe the parameters monitored and/or methods used to indicate performance of this control device.

Please refer to Table G-1.

ATTACHMENT G - Air Pollution Control Device Form

Control device ID number: G-0911	List all emission units associated with this control device. Please refer to Table G-1.
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Manufacturer:	Model number:	Installation date:
Please refer to Table G-1.		

Type of Air Pollution Control Device: Refer to Forms Data Spreadsheet, Attachment G

<input type="checkbox"/> Baghouse/Fabric Filter	<input type="checkbox"/> Venturi Scrubber	<input type="checkbox"/> Multiclone
<input type="checkbox"/> Carbon Bed Adsorber	<input type="checkbox"/> Packed Tower Scrubber	<input type="checkbox"/> Single Cyclone
<input type="checkbox"/> Carbon Drum(s)	<input type="checkbox"/> Other Wet Scrubber	<input type="checkbox"/> Cyclone Bank
<input type="checkbox"/> Catalytic Incinerator	<input type="checkbox"/> Condenser	<input type="checkbox"/> Settling Chamber
<input type="checkbox"/> Thermal Incinerator	<input type="checkbox"/> Flare	<input type="checkbox"/> Other (describe) _____
<input type="checkbox"/> Wet Plate Electrostatic Precipitator	<input type="checkbox"/> Dry Plate Electrostatic Precipitator	

List the pollutants for which this device is intended to control and the capture and control efficiencies.

Pollutant	Capture Efficiency	Control Efficiency
Please refer to Table G-1.		

Explain the characteristic design parameters of this control device (flow rates, pressure drops, number of bags, size, temperatures, etc.).

Please refer to Table G-1.

Is this device subject to the CAM requirements of 40 C.F.R. 64? Yes No

If Yes, **Complete ATTACHMENT H**

If No, **Provide justification.**

Describe the parameters monitored and/or methods used to indicate performance of this control device.

Please refer to Table G-1.

Table G-1. Air Pollution Control Device Information

Emission Point ID	Control Device ID	Control Device Description	Emission Unit IDs	Manufacturer	Model #	Installation Date	Type	Controlled Pollutants	Capture Efficiency	Control Efficiency	Characteristic Design Parameters	CAM Required?	Parameters / Methods Indicating Performance
B542E	OSBL Flare	OSBL Flare	Maintenance bleeds and emergency relief (A-10, A-11, A-16); Pump seal pots (A-10, A-11); J1101 (A-11); P302, P501, P503 compressor seal vents (A-91); J1001, J1003 compressor seal vents (A-10); J1401A, B, C, D unloading compressor seal vents (A-16); FAA-1002 [JA-1001 discharge pot], FAA-1003 [JA-1003 discharge pot] (A-10); back purge and speed loops on analyzers ARA-101 through ARA-106 (A-11); back purge and speed loop vents on analyzers ARA-111, AR201, AR321, AR3212A, AR3212B (A-91); DA-1A-105 A/B dryer regenerations (A-11)	John Zink	STF-S-18C	Const. - 10/6/60 Modif. - 5/1/88	Flare	VOC	100%	98%	max flow: 6,000 cfm , avg flow: 0.1 cfm @ 70F, flare tip diameter: 18", flare gas temp: 70F	Yes	Continuous monitoring of each pilot light flame
91E	ISBL Flare	ISBL Flare	D601 and D602 blowdown vessels and emergency relief (A-91)	John Zink	STF-U-20	3/1/1988	Flare	VOC	100%	98%	Four-stage combustion (3 burners in stage 1, 5 burners in stage 2, 10 burners in stage 3, U-20 burner in stage 4), max flow: 41,422 cfm, flare gas temp: 70F	Yes	Continuous monitoring of each pilot light flame
76E	Filter #2	L-8903 Feeder #2 Bag Filter	L-8903 Feeder #2	Filters Unlimited		2014	Fabric Filter	Total Particulate	100%	99.9%		No	Monthly visible emissions checks
77E	Filter #3	L-8904 Feeder #3 Bag Filter	L-8904 Feeder #3	Filters Unlimited		2014	Fabric Filter	Total Particulate	100%	99.9%		No	Monthly visible emissions checks
78E	Filter #5	L-8905 Feeder #5 Bag Filter	L-8905 Feeder #5	Filters Unlimited		2014	Fabric Filter	Total Particulate	100%	99.9%		No	Monthly visible emissions checks
79E	Filter #6	L-8906 Feeder #6 Bag Filter	L-8906 Feeder #6	Filters Unlimited		2014	Fabric Filter	Total Particulate	100%	99.9%		No	Monthly visible emissions checks
80E	Filter #7	L-8907 Feeder #7 Bag Filter	L-8907 Feeder #7	Filters Unlimited		2014	Fabric Filter	Total Particulate	100%	99.9%		No	Monthly visible emissions checks
81E	Filter #4	L-8908 Feeder #4 Bag Filter	L-8908 Feeder #4	Filters Unlimited		2014	Fabric Filter	Total Particulate	100%	99.9%		No	Monthly visible emissions checks
74E	G-8830	G-8830 Bag Filter	L-8829			2011	Fabric Filter	Total Particulate	100%	99%		No	Monthly visible emissions checks
58E	G-738	WPB South Dust Collector	Matcon-Buls Loading Booth, Drum Weigh Station, D-8808, D-8809, Matcon-Buls Unloading Booth	Mikropul	25S-10-TR-c-30	1991	Baghouse/Fabric Filter	Total Particulate	100%	98%		No	Monthly visible emissions checks
71E	Unnamed Cyclone #2	Portable Blower Unit #2 - Unnamed Cyclone #2	Portable Blower Unit #2				Multiclone	Total Particulate	100%	80%		No	Monthly visible emissions checks
24E	G-9001	G-9001 Silos Bag Filter	D-9002, D-9003 Pellet Silos	Allied Flotronics			Baghouse/Fabric Filter	Total Particulate	100%	99.9%		No	Monthly visible emissions checks
26E	G-9002	G-9002 Silo/Blender Bag Filter	D-9001, D-9004 Pellet Silos	Allied Flotronics			Baghouse/Fabric Filter	Total Particulate	100%	99.9%		No	Monthly visible emissions checks
72E	G-9003	G-9003 Blenders Bag Filter	D-9005, D-9012 Pellet Silos	Allied Flotronics	FTFR 54-96 VAC/PRES	6/5/1987	Baghouse/Fabric Filter	Total Particulate	100%	99.9%		No	Monthly visible emissions checks
38E	G-9004	G-9004 Blenders Bag Filter	D-9006, D-9011 Pellet Silos	Allied Flotronics			Baghouse/Fabric Filter	Total Particulate	100%	99.9%		No	Monthly visible emissions checks
42E	G-9501	Flotriator Bag Filter	L-9501				Multiclone	Total Particulate	100%	99.9%		No	Monthly visible emissions checks
49E	G-9005	G-9005 Blenders Bag Filter	D-9007, D-9010 Pellet Silos	Allied Flotronics	FTFR 54-96 VAC/PRES	6/5/1987	Baghouse/Fabric Filter	Total Particulate	100%	99.9%		No	Monthly visible emissions checks
50E	G-9006	G-9006 Blenders Bag Filter	D-9008, D-9009 Pellet Silos	Allied Flotronics			Baghouse/Fabric Filter	Total Particulate	100%	99.9%		No	Monthly visible emissions checks
51E	G-9503	Pelletron Bag Filter	L-9503		100-PJD		Baghouse/Fabric Filter	Total Particulate	100%	98%		No	Monthly visible emissions checks
59E ^a	G-0908	Returned Rail Car Unloading Cyclone Cartridge Filter	G-0904	Allied Flotronics		10/7/1986	Baghouse/Fabric Filter	Total Particulate	100%	99.9%		No	Monthly visible emissions checks
	G-0911	Returned Rail Car Unloading Cyclone Bag Filter		Allied Flotronics	FTFR 36-48	11/6/1986	Baghouse/Fabric Filter	Total Particulate	100%	98%			

^a Emissions from the returned railcar unloading cyclone (G-0904) are routed to the bag filter (G-0911) which vents to the cartridge filter (G-0908) which ultimately vents to emission point 59E.

APPENDIX A. PTE CALCULATIONS

**Potential Emissions Calculations
Table of Contents**

TABLE NUMBER	TITLE
-	Table of Contents/Worksheet Description
1	POTENTIAL TO EMIT SUMMARY
2.A	NATURAL GAS AND PROPANE COMBUSTION EMISSIONS
2.B	B604 NATURAL GAS COMBUSTION EMISSIONS
2.C	B604 NATURAL GAS COMBUSTION HAP EMISSIONS
3	EMERGENCY GENERATORS PTE
4	ISBL FLARE AND OSBL FLARE PTE
5	LDAR EQUIPMENT PTE
6	COOLING TOWER PTE
7	PARTS WASHERS PTE
8.A	FNS PARTICULATE MATTER PTE
8.B	FNS VOC PTE
9	IA TANKS PTE
10.A	VMT CALCULATIONS
10.B	UNPAVED ROADWAY PTE
10.C	PAVED ROADWAY PTE
11	DS503 VENT

Table 1-Emissions Summary

Emission Unit ID	Emission Point ID	Emission Unit Description	Control Device	PM ₁₀ lb/hr	PM _{2.5} lb/hr	PM lb/hr	SO _x lb/hr	NO _x lb/hr	CO lb/hr	VOC lb/hr	Lead lb/hr	Total HAPs lb/hr	Hexane ^a lb/hr	PM ₁₀ tons/yr	PM _{2.5} tons/yr	PM tons/yr	SO _x tons/yr	NO _x tons/yr	CO tons/yr	VOC tons/yr	Lead tons/yr	Total HAPs tons/yr	Hexane ^a tons/yr
001 - Utilities																							
001-02	01E	Boiler #1 -Natural Gas Steam Boiler: Model# 1VP-10B, Serial# 6380	Low NO _x Burners 1995	0.57	0.57	0.57	0.05	7.55	6.34	0.42	3.8E-05	0.14	0.14	2.51	2.51	2.51	0.20	33.06	27.77	1.82	1.7E-04	0.62	0.60
B604	75E	Boiler #4 - Natural Gas Steam Boiler: Babcock & Wilcox Model # FM 103-79	Inherent Flue Gas Recirculation	0.76	0.76	0.76	0.03	4.98	3.99	0.35	5.0E-05	0.19	0.18	3.32	3.32	3.32	0.15	21.83	17.46	1.53	2.2E-04	0.82	0.79
001-03	70E	H-081: Nebraska Natural Gas Steam Boiler, Model# NS-A-20, Serial# D-3226	NA	0.04	0.04	0.04	0.00	0.53	0.45	0.03	2.7E-06	0.01	0.01	0.18	0.18	0.18	0.01	2.34	1.97	0.13	1.2E-05	0.04	0.04
001-04	70E	H-082: Nebraska Natural Gas Steam Boiler, Model# NS-A-20, Serial# D-3227	NA	0.04	0.04	0.04	0.00	0.53	0.45	0.03	2.7E-06	0.01	0.01	0.18	0.18	0.18	0.01	2.34	1.97	0.13	1.2E-05	0.04	0.04
Water Intake and Fire Pumps	EG-1, EG-2, and EG-3	IC Engines	NA	2.57	2.57	2.57	2.39	36.18	7.80	2.93	NA	0.03	NA	0.64	0.64	0.64	0.60	9.04	9.04	0.73	NA	0.01	NA
Cooling Towers	Fugitive	Cooling Tower	NA	4.90	4.90	4.90	NA	NA	NA	0.81	NA	NA	NA	21.45	21.45	21.45	NA	NA	NA	3.55	NA	NA	NA
002 - Raw Material Prep																							
Analyzer Building 111	Insignificant Activity	Material Prep Analyzer Area Analyzer Building 111	NA	NA	NA	NA	NA	NA	NA	0.11	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.49	NA	NA	NA
B101	B101E	Nitrogen Heater	NA	6.3E-03	6.3E-03	6.3E-03	0.01	0.12	0.07	0.01	NA	1.5E-03	1.5E-03	0.03	0.03	0.03	0.06	0.52	0.30	0.04	NA	6.7E-03	6.4E-03
OSBL Flare	B542E	OSBL Flare	NA	0.23	0.23	0.23	1.8E-04	0.44	1.87	3.42	1.5E-07	5.4E-04	5.4E-04	1.01	1.01	1.01	0.001	1.91	8.20	14.99	6.6E-07	2.4E-03	2.4E-03
LDAR Components	Fugitive	Distillation Area (A-11)	NA	NA	NA	NA	NA	NA	NA	Included in Facility-Wide LDAR Emissions	NA	NA	NA	NA	NA	NA	NA	NA	NA	Included in Facility-Wide LDAR Emissions	NA	NA	NA
LDAR Components	Fugitive	Nitrogen Heater Area (A-15)	NA	NA	NA	NA	NA	NA	NA	Included in Facility-Wide LDAR Emissions	NA	NA	NA	NA	NA	NA	NA	NA	NA	Included in Facility-Wide LDAR Emissions	NA	NA	NA
LDAR Components	Fugitive	Railroad Unloading Area (A-RR)	NA	NA	NA	NA	NA	NA	NA	Included in Facility-Wide LDAR Emissions	NA	NA	NA	NA	NA	NA	NA	NA	NA	Included in Facility-Wide LDAR Emissions	NA	NA	NA
LDAR Components	Fugitive	Propylene Storage Area (A-10)	NA	NA	NA	NA	NA	NA	NA	Included in Facility-Wide LDAR Emissions	NA	NA	NA	NA	NA	NA	NA	NA	NA	Included in Facility-Wide LDAR Emissions	NA	NA	NA
LDAR Components	Fugitive	Raw Material Prep Total	NA	NA	NA	NA	NA	NA	NA	Included in Facility-Wide LDAR Emissions	NA	NA	NA	NA	NA	NA	NA	NA	NA	Included in Facility-Wide LDAR Emissions	NA	NA	NA
Facility-Wide Paved Roadways	Fugitive	Facility-Wide Paved Roadways	NA	0.26	0.07	1.30	NA	NA	NA	NA	NA	NA	NA	1.16	0.29	5.71	NA	NA	NA	NA	NA	NA	NA
Facility-Wide Unpaved Roadways	Fugitive	Facility-Wide Unpaved Roadways	NA	0.50	0.05	1.95	NA	NA	NA	NA	NA	NA	NA	2.19	0.22	8.54	NA	NA	NA	NA	NA	NA	NA
Parts Washers	Insignificant Activity	Emissions from Parts Washers	NA	NA	NA	NA	NA	NA	NA	0.84	NA	1.7E-03	NA	NA	NA	NA	NA	NA	NA	3.68	NA	NA	NA

Table 1-Emissions Summary

Emission Unit ID	Emission Point ID	Emission Unit Description	Control Device	PM ₁₀ lb/hr	PM _{2.5} lb/hr	PM lb/hr	SO _x lb/hr	NO _x lb/hr	CO lb/hr	VOC lb/hr	Lead lb/hr	Total HAPs lb/hr	Hexane ^a lb/hr	PM ₁₀ tons/yr	PM _{2.5} tons/yr	PM tons/yr	SO _x tons/yr	NO _x tons/yr	CO tons/yr	VOC tons/yr	Lead tons/yr	Total HAPs tons/yr	Hexane ^a tons/yr
003 - Polymerization																							
Analyzer Building 60	Insignificant Activity	Polymerization Area Analyzer Building 60	NA	NA	NA	NA	NA	NA	NA	0.04	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.19	NA	NA	NA
Analyzer Building 68	Insignificant Activity	Polymerization Area Analyzer Building 68	NA	NA	NA	NA	NA	NA	NA	0.02	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.08	NA	NA	NA
ISBL Flare	91E	ISBL Flare	NA	0.23	0.23	0.23	1.8E-04	0.44	1.87	3.42	1.5E-07	5.4E-04	5.4E-04	1.01	1.01	1.01	0.00	1.91	8.20	14.99	6.6E-07	2.4E-03	2.4E-03
Facility-Wide LDAR Components	Fugitive	Facility-Wide LDAR Emissions	NA	NA	NA	NA	NA	NA	NA	34.45	NA	NA	NA	NA	NA	NA	NA	NA	NA	150.91	NA	NA	NA
D103	Insignificant Activity	Hydraulic Oil Guard	NA	NA	NA	NA	NA	NA	NA	2.7E-05	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.18E-04	NA	NA	NA
D105	Insignificant Activity	Oil/Grease Mixing Tank	NA	NA	NA	NA	NA	NA	NA	1.5E-04	NA	NA	NA	NA	NA	NA	NA	NA	NA	6.43E-04	NA	NA	NA
D106A	Insignificant Activity	Catalyst Tank	NA	NA	NA	NA	NA	NA	NA	6.7E-05	NA	2.3E-05	0.00	NA	NA	NA	NA	NA	NA	2.93E-04	NA	1.03E-04	3.51E-05
D106B	Insignificant Activity	Catalyst Tank	NA	NA	NA	NA	NA	NA	NA	6.7E-05	NA	2.3E-05	0.00	NA	NA	NA	NA	NA	NA	2.93E-04	NA	1.03E-04	3.51E-05
D107	Insignificant Activity	Hydraulic Oil Surge Drum	NA	NA	NA	NA	NA	NA	NA	6.0E-05	NA	NA	NA	NA	NA	NA	NA	NA	NA	2.64E-04	NA	NA	NA
D110A	Insignificant Activity	Donor Storage Tank	NA	NA	NA	NA	NA	NA	NA	6.0E-05	NA	NA	NA	NA	NA	NA	NA	NA	NA	2.64E-04	NA	NA	NA
D110B	Insignificant Activity	Donor Storage Tank	NA	NA	NA	NA	NA	NA	NA	6.0E-05	NA	NA	NA	NA	NA	NA	NA	NA	NA	2.64E-04	NA	NA	NA
F-698	Insignificant Activity	Used Oil Tank	NA	NA	NA	NA	NA	NA	NA	4.2E-03	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.83E-02	NA	NA	NA
F291	Insignificant Activity	Diesel Tank	NA	NA	NA	NA	NA	NA	NA	5.8E-05	NA	NA	NA	NA	NA	NA	NA	NA	NA	2.55E-04	NA	NA	NA
H-9209-A	Insignificant Activity	Diesel Tank	NA	NA	NA	NA	NA	NA	NA	2.4E-05	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.05E-04	NA	NA	NA
H-9209-B	Insignificant Activity	Diesel Tank	NA	NA	NA	NA	NA	NA	NA	2.4E-05	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.05E-04	NA	NA	NA
F1000	Insignificant Activity	Diesel Tank	NA	NA	NA	NA	NA	NA	NA	5.4E-05	NA	NA	NA	NA	NA	NA	NA	NA	NA	2.35E-04	NA	NA	NA
F290	Insignificant Activity	Diesel Tank	NA	NA	NA	NA	NA	NA	NA	3.2E-05	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.40E-04	NA	NA	NA
F704	Insignificant Activity	Diesel Tank	NA	NA	NA	NA	NA	NA	NA	6.7E-05	NA	NA	NA	NA	NA	NA	NA	NA	NA	2.95E-04	NA	NA	NA
F707	Insignificant Activity	Gasoline Tank	NA	NA	NA	NA	NA	NA	NA	2.0E-02	NA	NA	NA	NA	NA	NA	NA	NA	NA	8.94E-02	NA	NA	NA
DS503	82E	DS503 Vent	NA	NA	NA	NA	NA	NA	NA	1.7E+00	NA	NA	NA	NA	NA	NA	NA	NA	NA	7.51E+00	NA	NA	NA
005 - Product Finishing																							
L-8903 L-8904 L-8905 L-8906 L-8907 L-8908	76E 77E 78E 79E 80E 81E	L-8903 Feeder #2 L-8904 Feeder #3 L-8905 Feeder #5 L-8906 Feeder #6 L-8907 Feeder #7 L-8908 Feeder #4	Filter #2 Filter #3 Filter #5 Filter #6 Filter #7 Filter #4	0.001	0.001	0.001	NA	NA	NA	NA	NA	NA	NA	0.01	0.01	0.01	NA	NA	NA	NA	NA	NA	NA
L-8829	74E	L-8829 Blender/Conveyor	G-8830 - Bag Filter	0.01	0.01	0.01	NA	NA	NA	NA	NA	NA	NA	0.04	0.04	0.04	NA	NA	NA	NA	NA	NA	NA
L-8856	56E	WPB Pellet Dryer	NA	5.00	5.00	5.00	NA	NA	NA	NA	NA	NA	NA	21.90	21.90	21.90	NA	NA	NA	NA	NA	NA	NA
Additives Prep	58E	Matcon-Buls Loading Booth (2nd Floor) Matcon-Buls Unloading Booth (3rd Floor) Drum Weigh Station (3rd Floor) D-8808 Feeder to R1 New Line B Ribbon Blender (3rd Floor) D-8809 Feeder to R1 New Line B Ribbon Blender (3rd Floor) L-8829 Feeder to R1 New Line B Ribbon Blender (3rd Floor)	G-738 - South Dust Collector	0.18	0.18	0.18	NA	NA	NA	NA	NA	NA	NA	0.79	0.79	0.79	NA	NA	NA	NA	NA	NA	NA
L-816B	68E	WP2 Extruder	NA	0.12	0.12	0.12	NA	NA	NA	NA	NA	NA	NA	0.53	0.53	0.53	NA	NA	NA	NA	NA	NA	NA

Table 1-Emissions Summary

Emission Unit ID	Emission Point ID	Emission Unit Description	Control Device	PM ₁₀ lb/hr	PM _{2.5} lb/hr	PM lb/hr	SO _x lb/hr	NO _x lb/hr	CO lb/hr	VOC lb/hr	Lead lb/hr	Total HAPs lb/hr	Hexane ^a lb/hr	PM ₁₀ tons/yr	PM _{2.5} tons/yr	PM tons/yr	SO _x tons/yr	NO _x tons/yr	CO tons/yr	VOC tons/yr	Lead tons/yr	Total HAPs tons/yr	Hexane ^a tons/yr
WP2 Pellet Loading Hopper	69E	WP2 Pellet Loading Hopper	NA	0.12	0.12	0.12	NA	NA	NA	NA	NA	NA	NA	0.53	0.53	0.53	NA	NA	NA	NA	NA	NA	NA
Portable Blower Unit #2	71E	Portable Blower Unit #2	NA	0.80	0.80	0.80	NA	NA	NA	Included in VOC Emissions from Product Storage and Loading	NA	NA	NA	3.50	3.50	3.50	NA	NA	NA	Included in VOC Emissions from Product Storage and Loading	NA	NA	NA
F-8809A	Insignificant Activity	Peroxide Tank	NA	NA	NA	NA	NA	NA	NA	7.6E-06	NA	NA	NA	NA	NA	NA	NA	NA	NA	3.33E-05	NA	NA	NA
F-8809B	Insignificant Activity	Peroxide Tank	NA	NA	NA	NA	NA	NA	NA	7.6E-06	NA	NA	NA	NA	NA	NA	NA	NA	NA	3.33E-05	NA	NA	NA
	Insignificant Activity	F-8809A/B Peroxide Tank Loading	NA	NA	NA	NA	NA	NA	NA	7.6E-06	NA	NA	NA	NA	NA	NA	NA	NA	NA	3.33E-05	NA	NA	NA
VOC Emissions from Product Finishing	Fugitive	VOC Emissions from Product Finishing	NA	NA	NA	NA	NA	NA	NA	0.36	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.57	NA	NA	NA

Table 1-Emissions Summary

Emission Unit ID	Emission Point ID	Emission Unit Description	Control Device	PM ₁₀ lb/hr	PM _{2.5} lb/hr	PM lb/hr	SO _x lb/hr	NO _x lb/hr	CO lb/hr	VOC lb/hr	Lead lb/hr	Total HAPs lb/hr	Hexane ^a lb/hr	PM ₁₀ tons/yr	PM _{2.5} tons/yr	PM tons/yr	SO _x tons/yr	NO _x tons/yr	CO tons/yr	VOC tons/yr	Lead tons/yr	Total HAPs tons/yr	Hexane ^a tons/yr
006 - Product Storage																							
D-9002 D-9003	24E	D-9002 Pellet Silo D-9003 Pellet Silo	G-9001 - Bag Filter	0.02	0.02	0.02	NA	NA	NA	Included in VOC Emissions from Product Storage and Loading	NA	NA	NA	0.09	0.09	0.09	NA	NA	NA	Included in VOC Emissions from Product Storage and Loading	NA	NA	NA
D-9001 D-9004	26E	D-9001 Pellet Silo D-9004 Pellet Silo	G-9002 - Bag Filter	0.02	0.02	0.02	NA	NA	NA	Included in VOC Emissions from Product Storage and Loading	NA	NA	NA	0.09	0.09	0.09	NA	NA	NA	Included in VOC Emissions from Product Storage and Loading	NA	NA	NA
D-9006 D-9011	38E	D-9006 Pellet Silo D-9011 Pellet Silo	G-9004 - Bag Filter	0.02	0.02	0.02	NA	NA	NA	Included in VOC Emissions from Product Storage and Loading	NA	NA	NA	0.09	0.09	0.09	NA	NA	NA	Included in VOC Emissions from Product Storage and Loading	NA	NA	NA
L-9501	42E	Flotriator	G-9501 - Bag Filter	0.02	0.02	0.02	NA	NA	NA	Included in VOC Emissions from Product Storage and Loading	NA	NA	NA	0.09	0.09	0.09	NA	NA	NA	Included in VOC Emissions from Product Storage and Loading	NA	NA	NA
D-9007 D-9010	49E	D-9007 Pellet Silo D-9010 Pellet Silo	G-9005 - Bag Filter	0.02	0.02	0.02	NA	NA	NA	Included in VOC Emissions from Product Storage and Loading	NA	NA	NA	0.09	0.09	0.09	NA	NA	NA	Included in VOC Emissions from Product Storage and Loading	NA	NA	NA
D-9008 D-9009	50E	D-9008 Pellet Silo D-9009 Pellet Silo	G-9006 - Bag Filter	0.02	0.02	0.02	NA	NA	NA	Included in VOC Emissions from Product Storage and Loading	NA	NA	NA	0.09	0.09	0.09	NA	NA	NA	Included in VOC Emissions from Product Storage and Loading	NA	NA	NA
L-9503	51E	Pelletron	G-9503 - Bag Filter	3.14	3.14	3.14	NA	NA	NA	Included in VOC Emissions from Product Storage and Loading	NA	NA	NA	13.75	13.75	13.75	NA	NA	NA	Included in VOC Emissions from Product Storage and Loading	NA	NA	NA
G-0904	59E	Returned Rail Car Unloading Cyclone	G-0911 - Bag Filter G-0908 - Cartridge Filter	0.55	0.55	0.55	NA	NA	NA	Included in VOC Emissions from Product Storage and Loading	NA	NA	NA	2.40	2.40	2.40	NA	NA	NA	Included in VOC Emissions from Product Storage and Loading	NA	NA	NA
D-670 (SB-1)	60E	SB-1 Super Blender	NA	0.55	0.55	0.55	NA	NA	NA	Included in VOC Emissions from Product Storage and Loading	NA	NA	NA	2.40	2.40	2.40	NA	NA	NA	Included in VOC Emissions from Product Storage and Loading	NA	NA	NA
D-672 (SB-2)	61E	SB-2 Super Blender	NA	0.55	0.55	0.55	NA	NA	NA	Included in VOC Emissions from Product Storage and Loading	NA	NA	NA	2.40	2.40	2.40	NA	NA	NA	Included in VOC Emissions from Product Storage and Loading	NA	NA	NA
SB-3	62E	Truck Loading Pellet Silo	NA	2.38	2.38	2.38	NA	NA	NA	Included in VOC Emissions from Product Storage and Loading	NA	NA	NA	10.42	10.42	10.42	NA	NA	NA	Included in VOC Emissions from Product Storage and Loading	NA	NA	NA
D-9005 D-9012	72E	D-9005 Pellet Silo D-9012 Pellet Silo	G-9003 - Bag Filter	0.02	0.02	0.02	NA	NA	NA	Included in VOC Emissions from Product Storage and Loading	NA	NA	NA	0.09	0.09	0.09	NA	NA	NA	Included in VOC Emissions from Product Storage and Loading	NA	NA	NA
VOC Emissions from Product Storage and Loading	Fugitive	VOC Emissions from Product Storage and Loading	NA	NA	NA	NA	NA	NA	NA	0.36	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.57	NA	NA	NA
Total Potential Emissions:				23.64	22.99	26.13	2.49	50.77	22.83	49.35	0.00	0.39	0.34	92.94	90.11	103.85	1.04	72.95	74.91	204.02	4.08E-04	1.56	1.48

^a Hexane is the single largest HAP emitted.

Table 2.A-NG AND Propane Emissions

Pollutant	Natural Gas Combustion [AP-42, Table 1.4-1 and Table 1.4-2 (7/98), FIRE v6.25] (lb/mmscf)	Propane Combustion Emission Factors [AP-42 Table 1.5-1] (lb/10 ³ gal)	Gas Boiler (ton/yr)	H-081 East FNS Gas Boiler (ton/yr)	H-082 West FNS Gas Boiler (ton/yr)	B-101 Nitrogen Furnace (Propane) (ton/yr)
CO	84	7.5	27.77	1.97	1.97	0.30
NO _x	100	13	33.06	2.34	2.34	0.52
NH ₃	3.2	NA	1.06	0.07	0.07	NA
SO ₂	0.6	1.59	0.20	0.01	0.01	0.06
Lead	0.0005	NA	1.65E-04	1.17E-05	1.17E-05	NA
PM	7.6	0.7	2.51	0.18	0.18	0.03
PM ₁₀	7.6	0.7	2.51	0.18	0.18	0.03
PM _{2.5}	7.6	0.7	2.51	0.18	0.18	0.03
VOC	5.5	1	1.82	0.13	0.13	0.04
TOC	11	1	3.64	0.26	0.26	0.04

Potential fuel consumption:	661.3	46.8	46.8	79.4
Fuel combusted units:	mmscf	mmscf	mmscf	10³ gal

AP-42 (10/96) propane heating value (Btu/gal)	91,500
AP-42 (7/98) natural gas heating value (Btu/scf)	1,020
AP-42 (10/96) diesel heating value (Btu/lb)	19,300
Equivalent natural gas combusted in B-101 (mmscf)	7.1

Diesel density (lb/gal):	7.1
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HAPs	CAS No.	Natural Gas Combustion [AP-42, Sec. 1.4, Table 1.4-3 and Table 1.4-4 (7/98)] (lb/mmscf)	Diesel Combustion [AP-42, Sec. 3.3, Table 3.3-2(10/96)] (lb/MMBtu)	Gas Boiler Emissions (ton/yr)	Hourly HAPs for iSTEPS	H081 East FNS Gas Boiler (ton/yr)	H021 West FNS Gas Boiler (ton/yr)	B-101 Nitrogen Furnace (ton/yr)
2-Methylnaphthalene	91-57-6	2.4E-05	NA	7.94E-06	1.81E-06	5.62E-07	5.62E-07	8.55E-08
3-Methylchloranthrene*	56-49-5	1.8E-06	NA	5.95E-07	1.36E-07	4.21E-08	4.21E-08	6.41E-09
7,12-Dimethylbenz(a)anthracene*	57-97-6	1.6E-05	NA	5.29E-06	1.21E-06	3.74E-07	3.74E-07	5.70E-08
Acenaphthene	83-32-9	1.8E-06	NA	5.95E-07	1.36E-07	4.21E-08	4.21E-08	6.41E-09
Acenaphthylene	203-96-8	1.8E-06	NA	5.95E-07	1.36E-07	4.21E-08	4.21E-08	6.41E-09
Anthracene	120-12-7	2.4E-06	1.87E-06	7.94E-07	1.81E-07	5.62E-08	5.62E-08	8.55E-09
Benzo(a)anthracene*	56-55-3	1.8E-06	1.68E-06	5.95E-07	1.36E-07	4.21E-08	4.21E-08	6.41E-09
Benzene	71-43-2	2.1E-03	9.33E-04	6.94E-04	1.59E-04	4.91E-05	4.91E-05	7.48E-06
Benzo(a)pyrene*	50-32-8	1.2E-06	1.88E-07	3.97E-07	9.06E-08	2.81E-08	2.81E-08	4.27E-09
Benzo(b)fluoranthene*	205-99-2	1.8E-06	9.91E-08	5.95E-07	1.36E-07	4.21E-08	4.21E-08	6.41E-09
Benzo(g,h,i)perylene	191-24-2	1.2E-06	4.89E-07	3.97E-07	9.06E-08	2.81E-08	2.81E-08	4.27E-09
Benzo(k)fluoranthene*	205-82-3	1.8E-06	1.55E-07	5.95E-07	1.36E-07	4.21E-08	4.21E-08	6.41E-09
Chrysene*	218-01-9	1.8E-06	3.53E-07	5.95E-07	1.36E-07	4.21E-08	4.21E-08	6.41E-09
Dibenzo(a,h)anthracene*	53-70-3	1.2E-06	5.83E-07	3.97E-07	9.06E-08	2.81E-08	2.81E-08	4.27E-09
Dichlorobenzene	25321-22-6	1.2E-03	NA	3.97E-04	9.06E-05	2.81E-05	2.81E-05	4.27E-06
Fluoranthene*	206-44-0	3.0E-06	7.61E-06	9.92E-07	2.26E-07	7.02E-08	7.02E-08	1.07E-08
Fluorene	86-73-7	2.8E-06	NA	9.26E-07	2.11E-07	6.55E-08	6.55E-08	9.97E-09
Formaldehyde (HCOH)	50-00-0	7.5E-02	1.18E-03	2.48E-02	5.66E-03	1.76E-03	1.76E-03	2.67E-04
Hexane	110-54-3	1.8	NA	5.95E-01	1.36E-01	4.21E-02	4.21E-02	6.41E-03
Indeno(1,2,3-cd)pyrene*	193-39-5	1.8E-06	3.75E-07	5.95E-07	1.36E-07	4.21E-08	4.21E-08	6.41E-09
Naphthalene	91-20-3	6.1E-04	8.48E-05	2.02E-04	4.60E-05	1.43E-05	1.43E-05	2.17E-06
Phenanthrene	85-01-8	1.7E-05	2.94E-05	5.62E-06	1.28E-06	3.98E-07	3.98E-07	6.05E-08
Pyrene	129-00-0	5.0E-06	NA	1.65E-06	3.77E-07	1.17E-07	1.17E-07	1.78E-08
Toluene	108-88-3	3.4E-03	4.09E-04	1.12E-03	2.57E-04	7.96E-05	7.96E-05	1.21E-05
Arsenic	7440-38-2	2.0E-04	NA	6.61E-05	1.51E-05	4.68E-06	4.68E-06	7.12E-07
Beryllium	7440-41-7	1.2E-05	NA	3.97E-06	9.06E-07	2.81E-07	2.81E-07	4.27E-08
Cadmium	7440-43-9	1.1E-03	NA	3.64E-04	8.30E-05	2.57E-05	2.57E-05	3.92E-06
Chromium	7440-47-3	1.4E-03	NA	4.63E-04	1.06E-04	3.28E-05	3.28E-05	4.99E-06
Cobalt	7440-48-4	8.4E-05	NA	2.78E-05	6.34E-06	1.97E-06	1.97E-06	2.99E-07
Lead	7439-92-1	5.0E-04	NA	1.65E-04	3.77E-05	1.17E-05	1.17E-05	1.78E-06
Manganese	7439-96-5	3.8E-04	NA	1.26E-04	2.87E-05	8.89E-06	8.89E-06	1.35E-06
Mercury	7439-97-6	2.6E-04	NA	8.60E-05	1.96E-05	6.08E-06	6.08E-06	9.26E-07
Nickel	7440-02-0	2.1E-03	NA	6.94E-04	1.59E-04	4.91E-05	4.91E-05	7.48E-06
Selenium	7782-49-2	2.4E-05	NA	7.94E-06	1.81E-06	5.62E-07	5.62E-07	8.55E-08
POM	-	8.8E-05	NA	2.92E-05	6.66E-06	2.06E-06	2.06E-06	3.14E-07
1,3-Butadiene	106-99-0	NA	3.91E-05	NA	NA	NA	NA	NA
Acetaldehyde	75-07-0	NA	7.67E-04	NA	NA	NA	NA	NA
Polycyclic Aromatic Compounds Category (PACs)	-	NA	1.10E-05	NA	NA	NA	NA	NA
Xylenes	-	NA	2.85E-04	NA	NA	NA	NA	NA
Propylene	115-07-1	NA	2.58E-03	NA	NA	NA	NA	NA
Acrolein	107-02-8	NA	9.25E-05	NA	NA	NA	NA	NA

Table 2.B-B604 Emission Calcs

EMISSION FACTORS

Client Supplied

NO _x with 15% Flue Gas Recirculation (FGR)	0.05 lb/MMBtu
CO	0.04 lb/MMBtu
VOC	0.0035 lb/MMBtu
Hydrocarbons (Total Organic Compounds)	0.008 lb/MMBtu
SO ₂	0.00035 lb/MMBtu

Boiler Specifications (Babcock & Wilcox Power Generation Group, Inc.) B&W Model FM 103-79 as contained in Proposal No.P55-5437 (Rev-2B) dated March 29, 2011
 Boiler Specifications (Babcock & Wilcox Power Generation Group, Inc.) B&W Model FM 103-79 as contained in Proposal No.P55-5437 (Rev-2B) dated March 29, 2011
 Boiler Specifications (Babcock & Wilcox Power Generation Group, Inc.) B&W Model FM 103-79 as contained in Proposal No.P55-5437 (Rev-2B) dated March 29, 2011
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AP-42 "Natural Gas Combustion 1.4" - Emission Factors and Data

Lead	0.0005 lb/mmscf
PM (Total)	7.6 lb/mmscf

AP-42 "Natural Gas Combustion 1.4" (7/98), Table 1.4-2
 AP-42 "Natural Gas Combustion 1.4" (7/98), Table 1.4-2

CALCULATIONS

Process Data and Assumptions

Natural Gas Heating Value, H	1000 BTU/scf
Heat Input Capacity, I	99.66 MMBtu/hr

Boiler Specifications (Babcock & Wilcox Power Generation Group, Inc.) B&W Model FM 103-79 as contained in Proposal No.P55-5437 (Rev-2B) dated March 29, 2011
 Boiler Specifications (Babcock & Wilcox Power Generation Group, Inc.) B&W Model FM 103-79 as contained in Proposal No.P55-5437 (Rev-2B) dated March 29, 2011

^a The hourly natural gas consumption rate reflects the boiler's capability to operate at 110% of the Maximum Capacity Rating (MCR).

EMISSION CALCULATION

	Potential Hourly Emissions (lb/hr)	Potential Daily Emissions ^b (lb/day)	Annual Emissions	
			(lb/yr)	(tpy)
NO _x , with FGR	4.98	119.59	43,651.08	21.83
CO	3.99	95.67	34,920.86	17.46
VOC	0.35	8.37	3,055.58	1.53
PM/PM ₁₀ /PM _{2.5} (Total) ^c	0.76	18.18	6,634.96	3.32
SO ₂	0.03	0.84	305.56	0.15
Hydrocarbons (Total Organic Compounds)	0.80	19.13	6,984.17	3.49
Lead	4.98E-05	1.20E-03	0.44	2.18E-04

^b Daily emissions are based maximum combustion rate and 24 hours per day.

^c As described in footnote c to AP-42, Section 1.4, Table 1.4-2, all PM is assumed to be less than 1 micron in aerodynamic diameter.

Table 2.C-B604 HAP Emission Calcs

Table N-2. B604 HAP Emissions Calculations

HAPs	CAS No.	Natural Gas Emission Factor ^a (lb/MMscf)	HAP Emissions lb/hr	HAP Emissions (tons/yr)	
2-Methylnaphthalene	91-57-6	2.4E-05	2.4E-06	1.05E-05	=Annual NG Consumption [MMscf/yr] × EF [lb/MMscf] ÷ 2000 [lb/ton]
3-Methylchloranthrene	56-49-5	1.8E-06	1.8E-07	7.86E-07	=Annual NG Consumption [MMscf/yr] × EF [lb/MMscf] ÷ 2000 [lb/ton]
7,12-Dimethylbenz(a)anthracene	57-97-6	1.6E-05	1.6E-06	6.98E-06	=Annual NG Consumption [MMscf/yr] × EF [lb/MMscf] ÷ 2000 [lb/ton]
Acenaphthene	83-32-9	1.8E-06	1.8E-07	7.86E-07	=Annual NG Consumption [MMscf/yr] × EF [lb/MMscf] ÷ 2000 [lb/ton]
Acenaphthylene	203-96-8	1.8E-06	1.8E-07	7.86E-07	=Annual NG Consumption [MMscf/yr] × EF [lb/MMscf] ÷ 2000 [lb/ton]
Anthracene	120-12-7	2.4E-06	2.4E-07	1.05E-06	=Annual NG Consumption [MMscf/yr] × EF [lb/MMscf] ÷ 2000 [lb/ton]
Benz(a)anthracene	56-55-3	1.8E-06	1.8E-07	7.86E-07	=Annual NG Consumption [MMscf/yr] × EF [lb/MMscf] ÷ 2000 [lb/ton]
Benzene	71-43-2	2.1E-03	2.1E-04	9.17E-04	=Annual NG Consumption [MMscf/yr] × EF [lb/MMscf] ÷ 2000 [lb/ton]
Benzo(a)pyrene	50-32-8	1.2E-06	1.2E-07	5.24E-07	=Annual NG Consumption [MMscf/yr] × EF [lb/MMscf] ÷ 2000 [lb/ton]
Benzo(b)fluoranthene	205-99-2	1.8E-06	1.8E-07	7.86E-07	=Annual NG Consumption [MMscf/yr] × EF [lb/MMscf] ÷ 2000 [lb/ton]
Benzo(g,h,i)perylene	191-24-2	1.2E-06	1.2E-07	5.24E-07	=Annual NG Consumption [MMscf/yr] × EF [lb/MMscf] ÷ 2000 [lb/ton]
Benzo(k)fluoranthene	205-82-3	1.8E-06	1.8E-07	7.86E-07	=Annual NG Consumption [MMscf/yr] × EF [lb/MMscf] ÷ 2000 [lb/ton]
Chrysene	218-01-9	1.8E-06	1.8E-07	7.86E-07	=Annual NG Consumption [MMscf/yr] × EF [lb/MMscf] ÷ 2000 [lb/ton]
Dibenzo(a,h)anthracene	53-70-3	1.2E-06	1.2E-07	5.24E-07	=Annual NG Consumption [MMscf/yr] × EF [lb/MMscf] ÷ 2000 [lb/ton]
Dichlorobenzene	25321-22-6	1.2E-03	1.2E-04	5.24E-04	=Annual NG Consumption [MMscf/yr] × EF [lb/MMscf] ÷ 2000 [lb/ton]
Fluoranthene	206-44-0	3.0E-06	3.0E-07	1.31E-06	=Annual NG Consumption [MMscf/yr] × EF [lb/MMscf] ÷ 2000 [lb/ton]
Fluorene	86-73-7	2.8E-06	2.8E-07	1.22E-06	=Annual NG Consumption [MMscf/yr] × EF [lb/MMscf] ÷ 2000 [lb/ton]
Formaldehyde (HCOH)	50-00-0	7.5E-02	7.5E-03	3.27E-02	=Annual NG Consumption [MMscf/yr] × EF [lb/MMscf] ÷ 2000 [lb/ton]
Hexane	110-54-3	1.8E+00	1.8E-01	7.86E-01	=Annual NG Consumption [MMscf/yr] × EF [lb/MMscf] ÷ 2000 [lb/ton]
Indeno(1,2,3-cd)pyrene	193-39-5	1.8E-06	1.8E-07	7.86E-07	=Annual NG Consumption [MMscf/yr] × EF [lb/MMscf] ÷ 2000 [lb/ton]
Naphthalene	91-20-3	6.1E-04	6.1E-05	2.66E-04	=Annual NG Consumption [MMscf/yr] × EF [lb/MMscf] ÷ 2000 [lb/ton]
Phenanathrene	85-01-8	1.7E-05	1.7E-06	7.42E-06	=Annual NG Consumption [MMscf/yr] × EF [lb/MMscf] ÷ 2000 [lb/ton]
Pyrene	129-00-0	5.0E-06	5.0E-07	2.18E-06	=Annual NG Consumption [MMscf/yr] × EF [lb/MMscf] ÷ 2000 [lb/ton]
Toluene	108-88-3	3.4E-03	3.4E-04	1.48E-03	=Annual NG Consumption [MMscf/yr] × EF [lb/MMscf] ÷ 2000 [lb/ton]
Arsenic	7440-38-2	2.0E-04	2.0E-05	8.73E-05	=Annual NG Consumption [MMscf/yr] × EF [lb/MMscf] ÷ 2000 [lb/ton]
Beryllium	7440-41-7	1.2E-05	1.2E-06	5.24E-06	=Annual NG Consumption [MMscf/yr] × EF [lb/MMscf] ÷ 2000 [lb/ton]
Cadmium	7440-43-9	1.1E-03	1.1E-04	4.80E-04	=Annual NG Consumption [MMscf/yr] × EF [lb/MMscf] ÷ 2000 [lb/ton]
Chromium	7440-47-3	1.4E-03	1.4E-04	6.11E-04	=Annual NG Consumption [MMscf/yr] × EF [lb/MMscf] ÷ 2000 [lb/ton]
Cobalt	7440-48-4	8.4E-05	8.4E-06	3.67E-05	=Annual NG Consumption [MMscf/yr] × EF [lb/MMscf] ÷ 2000 [lb/ton]
Lead	7439-92-1	5.0E-04	5.0E-05	2.18E-04	=Annual NG Consumption [MMscf/yr] × EF [lb/MMscf] ÷ 2000 [lb/ton]
Manganese	7439-96-5	3.8E-04	3.8E-05	1.66E-04	=Annual NG Consumption [MMscf/yr] × EF [lb/MMscf] ÷ 2000 [lb/ton]
Mercury	7439-97-6	2.6E-04	2.6E-05	1.13E-04	=Annual NG Consumption [MMscf/yr] × EF [lb/MMscf] ÷ 2000 [lb/ton]
Nickel	7440-02-0	2.1E-03	2.1E-04	9.17E-04	=Annual NG Consumption [MMscf/yr] × EF [lb/MMscf] ÷ 2000 [lb/ton]
Selenium	7782-49-2	2.4E-05	2.4E-06	1.05E-05	=Annual NG Consumption [MMscf/yr] × EF [lb/MMscf] ÷ 2000 [lb/ton]
Polycyclic Organic Matter (POM)		8.8E-05	8.8E-06	3.85E-05	=Annual NG Consumption [MMscf/yr] × EF [lb/MMscf] ÷ 2000 [lb/ton]
		Total HAPs	1.88E-01	8.24E-01	

^a Emission factors from AP-42, Tables 1.4-2, 1.4-3, and 1.4-4 (7/98).

Table 3-Generator Emissions

H9202A Generator Emissions - Diesel

Number of Generators	1	
Hours/Day Operated:	3	
Annual Hours of Operation:	500	hr/yr
Generator Capacity (Output):	330	hp
Fuel:	Diesel	

Daily hours of operation assumes that the generator would operate for no more than 3 hours during a fire emergency. The limited hours of operation for this emergency generator will be enforceable under a general permit registration. Horsepower rating reported on unit nameplate for Caterpillar engine H-9202 A/B

Pollutant	Diesel Emission Factor (lb/hp-hr)	Combined Potential Emissions (lb/hr)	Potential Emissions (tpy)	Potential Emissions (lb/day)	Emission Factor Source
NOx	0.031	10.23	2.56	30.69	AP-42, Table 3.3-1 (10/96)
CO	6.68E-03	2.20	0.55	6.61	AP-42, Table 3.3-1 (10/96)
PM ₁₀ /PM _{2.5} ^a	2.20E-03	0.73	0.18	2.18	AP-42, Table 3.3-1 (10/96)
SO ₂	2.05E-03	0.68	0.17	2.03	AP-42, Table 3.3-1 (10/96)
TOC	2.51E-03	0.83	0.21	2.49	AP-42, Table 3.3-1 (10/96)
HAPs ^{b,c}	2.71E-05	8.95E-03	2.24E-03	2.68E-02	AP-42, Table 3.3-2 (10/96)
Formaldehyde ^b	8.26E-06	2.73E-03	6.81E-04	8.18E-03	AP-42, Table 3.3-2 (10/96)

Note:

AP-42 Section 3.3 is applicable for diesel IC engines.

^a As provided in the footnote to AP-42 Table 3.3-1., all PM is assumed to be less than 1 µm in size.

^b The HAP emission factors are converted from lb/MMBtu using a the default brake specific fuel consumption of 7,000 Btu/hp-hr provided in the footnote to AP-42 Table 3.3-1.

^c Total HAP emissions are calculated as the sum of all speciated HAP emission factors provided in AP-42 Table 3.3-2.

H9202B Generator Emissions - Diesel

Number of Generators	1	
Hours/Day Operated:	3	
Annual Hours of Operation:	500	hr/yr
Generator Capacity (Output):	330	hp
Fuel:	Diesel	

Daily hours of operation assumes that the generator would operate for no more than 3 hours during a fire emergency. The limited hours of operation for this emergency generator will be enforceable under a general permit registration. Horsepower rating reported on unit nameplate for Caterpillar engine H-9202 A/B

Pollutant	Diesel Emission Factor (lb/hp-hr)	Combined Potential Emissions (lb/hr)	Potential Emissions (tpy)	Potential Emissions (lb/day)	Emission Factor Source
NOx	0.031	10.23	2.56	30.69	AP-42, Table 3.3-1 (10/96)
CO	6.68E-03	2.20	0.55	6.61	AP-42, Table 3.3-1 (10/96)
PM ₁₀ /PM _{2.5} ^a	2.20E-03	0.73	0.18	2.18	AP-42, Table 3.3-1 (10/96)
SO ₂	2.05E-03	0.68	0.17	2.03	AP-42, Table 3.3-1 (10/96)
TOC	2.51E-03	0.83	0.21	2.49	AP-42, Table 3.3-1 (10/96)
HAPs ^{b,c}	2.71E-05	8.95E-03	2.24E-03	2.68E-02	AP-42, Table 3.3-2 (10/96)
Formaldehyde ^b	8.26E-06	2.73E-03	6.81E-04	8.18E-03	AP-42, Table 3.3-2 (10/96)

Note:

AP-42 Section 3.3 is applicable for diesel IC engines.

^a As provided in the footnote to AP-42 Table 3.3-1., all PM is assumed to be less than 1 µm in size.

^b The HAP emission factors are converted from lb/MMBtu using a the default brake specific fuel consumption of 7,000 Btu/hp-hr provided in the footnote to AP-42 Table 3.3-1.

^c Total HAP emissions are calculated as the sum of all speciated HAP emission factors provided in AP-42 Table 3.3-2.

H516 Generator Emissions - Diesel

Number of Generators	1	
Hours/Day Operated:	3	
Annual Hours of Operation:	500	hr/yr
Generator Capacity (Output):	507	hp
Fuel:	Diesel	

Daily hours of operation assumes that the generator would operate for no more than 3 hours during a fire emergency. The limited hours of operation for this emergency generator will be enforceable under a general permit registration. Horsepower rating provided for Caterpillar engine in October 21, 2009, email summarizing generator inventories

Pollutant	Diesel Emission Factor (lb/hp-hr)	Combined Potential Emissions (lb/hr)	Potential Emissions (tpy)	Potential Emissions (lb/day)	Emission Factor Source
NOx	0.031	15.72	3.93	47.15	AP-42, Table 3.3-1 (10/96)
CO	6.68E-03	3.39	0.85	10.16	AP-42, Table 3.3-1 (10/96)
PM ₁₀ /PM _{2.5} ^a	2.20E-03	1.12	0.28	3.35	AP-42, Table 3.3-1 (10/96)
SO ₂	2.05E-03	1.04	0.26	3.12	AP-42, Table 3.3-1 (10/96)
TOC	2.51E-03	1.27	0.32	3.82	AP-42, Table 3.3-1 (10/96)
HAPs ^{b,c}	2.71E-05	1.37E-02	3.44E-03	4.12E-02	AP-42, Table 3.3-2 (10/96)
Formaldehyde ^b	8.26E-06	4.19E-03	1.05E-03	1.26E-02	AP-42, Table 3.3-2 (10/96)

Note:

AP-42 Section 3.3 is applicable for diesel IC engines.

^a As provided in the footnote to AP-42 Table 3.3-1., all PM is assumed to be less than 1 µm in size.

^b The HAP emission factors are converted from lb/MMBtu using a the default brake specific fuel consumption of 7,000 Btu/hp-hr provided in the footnote to AP-42 Table 3.3-1.

^c Total HAP emissions are calculated as the sum of all speciated HAP emission factors provided in AP-42 Table 3.3-2.

Table 4-Flare Emissions

Emission Factors from AP-42 "Industrial Flares 13.5"		
VOC	0.57	lb/mmBTU
CO	0.31	lb/mmBTU
NO _x	0.068	lb/mmBTU
CO ₂	117.65	lb/mmBTU
N ₂ O	0.0022	lb/mmBTU
CH ₄	0.077	lb/mmBTU
PM as Soot	274	µg/L
Heating Value of Propylene	0.021032	mmBTU/lb

AP-42 "Industrial Flares 13.5" Table 13.5
 AP-42 "Industrial Flares 13.5" Table 13.5

PM EF Conversion

1 lb/ft ³ =	16018463.37 µg/L
Feed Gas Heat Value	450 BTU/ft ³
PM as Soot	0.038011692 lb/mmBTU

= 1 lb/ft³ x 453592370 µg/lb ÷ 28.316846
 AP-42 "Industrial Flares 13.5" pg. 13.5-4
 = Soot Concentration [µg/L] ÷ Unit Conv

Flare Fuel Burning	OSBL Flare ^a	ISBL Flare	Units
Fuel Load	2,500,000	2,500,000	lb/yr
Annual Hours of Operation	NA	NA	hr/yr
VOC	14.985	14.985	ton/yr
CO	8.150	8.150	ton/yr
NO ₂	1.788	1.788	ton/yr
CO ₂	3092.941	3092.941	ton/yr
N ₂ O	0.057	0.057	ton/yr
CH ₄	2.024	2.024	ton/yr
PM as Soot	0.999	0.999	ton/yr

^a This is a subset of the OSBL Flare emissions not including D1105 A/B, Analyzer Speed Loops, and Analyzer B

Emission Factors from AP-42 "Natural Gas Combustion 1.4"		
VOC	5.5	lb/mmsecf
CO	40	lb/mmsecf
NO _x	94	lb/mmsecf
PM	7.6	lb/mmsecf
PM ₁₀	7.6	lb/mmsecf
SO ₂	0.6	lb/mmsecf
Lead	0.0005	lb/mmsecf
NH ₃	3.2	lb/mmsecf
CH ₄	2.3	lb/mmsecf
N ₂ O	2.2	lb/mmsecf
CO ₂	120000	lb/mmsecf
Hexane	1.8	lb/mmsecf

Flare Pilot	OSBL	ISBL	Units
Natural Gas	2,623	2,623	msecf / yr
VOC	0.007	0.007	ton/yr
CO	0.052	0.052	ton/yr
NO _x	0.123	0.123	ton/yr
PM	0.010	0.010	ton/yr
PM ₁₀	0.010	0.010	ton/yr
SO ₂	0.001	0.001	ton/yr
Lead	0.000	0.000	ton/yr
NH ₃	0.004	0.004	ton/yr
CH ₄	0.003	0.003	ton/yr
N ₂ O	0.003	0.003	ton/yr
CO ₂	157.35	157.35	ton/yr
Hexane	0.002	0.002	ton/yr

Total Flare Emissions	OSBL (ton/yr)	ISBL (ton/yr)
VOC	14.993	14.993
CO	8.202	8.202
NO _x	1.911	1.911
PM	1.009	1.009
PM ₁₀	1.009	1.009
SO ₂	0.001	0.001
Lead	6.56E-07	6.56E-07
NH ₃	0.004	0.004
Hexane	0.002	0.002

Table 5-LDAR Emissions

Components		Total # of Components ^a	Average SOCM I Emission Factor (kg/hr/component)	Average SOCM I Emission Factor (lb/hr/component)	Total VOC Emission Rate (lb/hr)	Total VOC Emission Rate (tpy)	Efficiency of LDAR Program ^b	Total VOC with LDAR program (tpy)
Pumps	Light Liquid	0	0.0199	0.0439	0.000	0.00	0.00	0.00
	True HL	25	0.0086	0.0190	0.475	2.08	0.00	2.08
	Heavy Liquid ^c	24	0.0199	0.0439	1.053	4.61	0.00	4.61
Valves	Gas	932	0.0060	0.0132	12.267	53.73	0.87	6.98
	Light Liquid	2,039	0.0040	0.0089	18.116	79.35	0.84	12.70
	Heavy Liquid	66	0.0002	0.0005	0.033	0.15	0.00	0.15
Pressure Relief Valves		5	0.1040	0.2293	1.146	5.02	0.00	5.02
Compressors ^d		3	0.2280	0.5027	1.508	6.60	0.93	0.46
Connectors	Gas	2,547	0.0018	0.0040	10.276	45.01	0.00	45.01
	Light Liquid	3,918	0.0018	0.0040	15.807	69.23	0.00	69.23
	Heavy Liquid	264	0.0018	0.0040	1.065	4.67	0.00	4.67
Total					61.746	270.448		150.911

^a The inventory of fugitive components was provided in a 3/26/10 email from BKM.

^b Unless otherwise specified, control efficiencies are provided for units subject to monthly monitoring and a leak definition of 10,000 ppmv under 40 CFR 60, Subpart VV.

^c These heavy liquid pumps are light liquid pumps with dual mechanical seals. The inner seal vents to the ISBL Flare through a degassing pot. The outer seal, which is a heavy liquid seal, vents to the atmosphere. Braskem has conservatively utilized emission factors for light liquid service to estimate emissions from these heavy liquid seals.

^d Emissions from compressors are estimated using the average SOCM I factor for compressor seals and the 93% control efficiency provided in the USEPA protocol for equipment leaks for units complying with the similar barrier fluid seal requirements established in the HON.

Table 6-Cooling Tower

Using Drift Factor based upon AP-42, Table 13.4-1 (Emission Factor Rating "D")

Cooling Tower	Circulation Rate (gpm)	lb PM₁₀/mgal at 12,000 ppm TDS	Maximum Conductivity (uMhos/cm)	Typical TDS (ppm)	Max Annual Hours	PM-10 Emissions (lb/hr)	PM-10 Emissions (tpy)
Neal Plant Cooling Tower ^a	19,300	0.019	3,815	2,671	8760	4.90	21.4

Cooling Tower	Circulation Rate (gpm)	Operating Hours	VOC Emission Factor^b (lb/MMgal)	VOC Emissions (lb/hr)	VOC Emissions (tpy)
Neal Plant Cooling Tower ^a	19,300	8,760	0.7	0.81	3.6

^a Cooling tower data provided by Bob Leighty (Neal utilities) In a conversation with Shawn Hickman on 5/24/06 with the exception of the maximum conductivity which is obtained from the 2008 daily WTP logs.

^b AP-42, Section 5.1.3 (1/95), Table 5.1-2 controlled VOC emissions. Per agreement with Bernie Marshall, utilize controlled emission factor. Additionally, Bernie Marshall will be recommending that the facility conduct sampling to determine site-specific emission factor.

Table 7-Parts Washers

Material	Total Surface Area of Degreasers (ft ²)	Operating Hours (hr/yr)	Emission Factor ^a (lb/hr/ft ²)	Hourly VOC Emissions (lb/hr)	Annual VOC Emissions (tpy)
Crystal Clean 142+ Mineral Spirits	11	8,760	0.08	0.84	3.68

^a AP-42 Table 4.6-2 for cold cleaners. Represents emissions of nonmethane VOCs.

Table 8.A-FNS PM

Emission ID	Emission Point	Source Description	Control Device	Pollutants Emitted	Process Weight Rate (lb/hr)	Potential to Emit		Maximum Operating hours	PTE Note
						(lb/hr)	(tpy)		
D-9002 D-9003	24E	D-9002 Pellet Silo D-9003 Pellet Silo	G-9001 - Bag Filter	Total Particulate	75,000	0.02	0.09	8760	1
D-9001 D-9004	26E	D-9001 Pellet Silo D-9004 Pellet Silo	G-9002 - Bag Filter	Total Particulate	75,000	0.02	0.09	8760	1
D-9006 D-9011	38E	D-9006 Pellet Silo D-9011 Pellet Silo	G-9004 - Bag Filter	Total Particulate	75,000	0.02	0.09	8760	1
L-9501	42E	Flotriator	G-9501 Bag Filter	Total Particulate	60,000	0.02	0.09	8760	1
D-9007 D-9010	49E	D-9007 Pellet Silo D-9010 Pellet Silo	G-9005 - Bag Filter	Total Particulate	75,000	0.02	0.09	8760	1
D-9008 D-9009	50E	D-9008 Pellet Silo D-9009 Pellet Silo	G-9006 - Bag Filter	Total Particulate	75,000	0.02	0.09	8760	1
L-9503	51E	Pelletron	G-9503 - Bag Filter	Total Particulate	60,000	3.14	13.75	8760	2
L-8903 L-8904 L-8905 L-8906 L-8907 L-8908	76E 77E 78E 79E 80E 81E	L-8903 Feeder #2 L-8904 Feeder #3 L-8905 Feeder #5 L-8906 Feeder #6 L-8907 Feeder #7 L-8908 Feeder #4	Filter #2 Filter #3 Filter #5 Filter #6 Filter #7 Filter #4	Total Particulate	75,000	0.001	0.01	8760	3
L-8829	74E	L-8829 Blender/Conveyor	G-8830 - Bag Filter	Total Particulate	75,000	0.01	0.04	8760	3
L-8856	56E	WPB Pellet Dryer	NA	Total Particulate	1,326,000	5.00	21.90	8760	2
Additives Prep	58E	Matcon-Buls Loading Booth (2nd Floor) Matcon-Buls Unloading Booth (3rd Floor) Drum Weigh Station (3rd Floor) D-8808 Feeder to R1 New Line B Ribbon Blender (3rd Floor) D-8809 Feeder to R1 New Line B Ribbon Blender (3rd Floor) L-8829 Feeder to R1 New Line B Ribbon Blender (3rd Floor)	G-738 - South Dust Collector	Total Particulate	1,500	0.18	0.79	8760	2
G-0904	59E	Returned Rail Car Unloading Cyclone	G-0911 - Bag Filter G-0908 - Cartridge Filter	Total Particulate	5,479	0.55	2.40	8760	2
D-670 (SB-1)	60E	SB-1 Super Blender	NA	Total Particulate	5,479	0.55	2.40	8760	2
D-672 (SB-2)	61E	SB-2 Super Blender	NA	Total Particulate	5,479	0.55	2.40	8760	2
SB-3	62E	Truck Loading Pellet Silo	NA	Total Particulate	33,000	2.38	10.42	8760	2
L-816B	68E	WP2 Extruder	NA	Total Particulate	1,000	0.12	0.53	8,760	2
WP2 Pellet Loading Hopper	69E	WP2 Pellet Loading Hopper	NA	Total Particulate	1,000	0.12	0.53	8,760	2
Portable Blower Unit #2	71E	Portable Blower Unit #2	Unnamed Cyclone #2	Total Particulate	8,000	0.80	3.50	8760	2
D-9005 D-9012	72E	D-9005 Pellet Silo D-9012 Pellet Silo	G-9003 - Bag Filter	Total Particulate	75,000	0.02	0.09	8760	1

PTE Determination Notes

1. Based on R13-1830K emission limit rounded up to nearest one hundredth spot. PTE is consistent with the emission limits specified in the current R13 permit (R13-1830K) and Title V permit.
2. Based on 10% of the allowed PWR emission limit defined in 45 CSR 7. PTE is consistent with the emission limits specified in the current R13 permit (R13-1830F) and Title V permit.
3. Based on PTE calculations submitted as part of the application for the Sock Filter project submitted in February 2014.

Table 8.B-FNS VOC

Neal FNS VOC Emissions

Polypropylene Finishing and Storage - Pellet Classifiers, Storage Silos, and Product Loading^a

Potential Hourly Production (lb/hr)	Potential Annual Production (lb/yr)	Polypropylene Pellet Emission Factor^b (lb VOC/MM lb pellets)	Potential Hourly VOC Emissions (lb/hr)	Potential Annual VOC Emissions (tpy)
75,000	650,000,000	9.67	0.73	3.14

^a VOC emissions have been equally distributed in between VOC Emissions from Product Finishing and VOC Emissions from Product Storage and Loading. The VOC emissions from the Pellet Classifiers have been included in the VOC Emissions from Product Finishing and VOC Emissions from Product Storage and Loading.

^b VOC emission factor based on April 1997 Beverage Can test at the Neal Plant

Table 9-Neal IA Tanks

Neal IA Tanks

Emission Unit ID	Emission Point	Emission Unit Description^a	Tank Size (gal)	Potential Emissions (lb/hr)	Potential Emissions (tons/yr)
F-698	IEU/ De Minimis	Used Oil Tank	16,500	0.004	0.018
D103	IEU/ De Minimis	Hydraulic Oil Guard	106	0.00003	0.0001
D105	IEU/ De Minimis	Oil/Grease Mixing Tank	580	0.00015	0.0006
D106A	IEU/ De Minimis	Catalyst Tank	264	0.00007	0.0003
D106B	IEU/ De Minimis	Catalyst Tank	264	0.00007	0.0003
D107	IEU/ De Minimis	Hydraulic Oil Surge Drum	238	0.00006	0.0003
D110A	IEU/ De Minimis	Donor Storage Tank	238	0.00006	0.0003
D110B	IEU/ De Minimis	Donor Storage Tank	238	0.00006	0.0003
F-8809A	IEU/ De Minimis	Peroxide Tank	30	0.00001	0.0000
F-8809B	IEU/ De Minimis	Peroxide Tank	30	0.00001	0.0000
		F-8809A/B Peroxide Tank Loading	3.3 gal/hr	0.00001	0.0000
F291	IEU/ De Minimis	Diesel Tank	1000	0.00006	0.0003
H-9209-A	IEU/ De Minimis	Diesel Tank	370	0.00002	0.0001
H-9209-B	IEU/ De Minimis	Diesel Tank	370	0.00002	0.0001
F1000	IEU/ De Minimis	Diesel Tank	1000	0.00005	0.0002
F290	IEU/ De Minimis	Diesel Tank	528	0.00003	0.0001
F704	IEU/ De Minimis	Diesel Tank	1000	0.00007	0.0003
F707		Gasoline Tank	1000	0.02040	0.0894
Total for Organic Tanks				0.025	0.111

^a VOC emissions calculated using Tanks 4.0 for Used Oil Tank, emissions for all other sources are scaled from the Used Oil Tank emissions based on tank size.

Table 10.A-Road Segments

Braskem Neal Road Segments

Segment ^a	Length ^a (ft)	Paved ^a	Number of Vehicles per Rd Segment per Day ^b				Average Wt. (lb/rd segment)	Number of Times Per Day Vehicles Travel Rd Segment ^b				VMT/day	VMT/yr
			Heavy Machinery	Work Trucks	Passenger Cars	Delivery Trucks		Heavy Machinery	Work Trucks	Passenger Cars	Delivery Trucks		
24	401	Yes	0.142857143	6	15		2.01	1	2	4		5.48	1999.85
25	567	Yes	0.142857143	6	15		2.01	1	2	4		7.75	2827.71
26	625	Yes	0.142857143	6	15		2.01	1	2	4		8.54	3116.97
27	625	Yes	0.142857143	6	15		2.01	1	2	4		8.54	3116.97
28	625	Yes	0.142857143	6	15		2.01	1	2	4		8.54	3116.97
29	591	Yes	0.142857143	6	15		2.01	1	2	4		8.08	2947.40
30	422	Yes	0.142857143	6	15	4	2.16	1	2	4	2	6.41	2337.96
31	709	Yes	0.142857143	6	30	4	2.10	1	2	4	2	18.82	6868.73
24A	149	Yes	0.142857143	6	15		2.01	1	2	4		2.04	743.09
24B	432	Yes	0.142857143	6	15		2.01	1	2	4		5.90	2154.45
25A	294	Yes	0.142857143	6	15		2.01	1	2	4		4.02	1466.22
25B	294	Yes	0.142857143	6	15		2.01	1	2	4		4.02	1466.22
26A	423	Yes	0.142857143	6	15		2.01	1	2	4		5.78	2109.56
26B	317	Yes	0.142857143	6	15		2.01	1	2	4		4.33	1580.93
26C	423	Yes	0.142857143	6	15		2.01	1	2	4		5.78	2109.56
26D	423	Yes	0.142857143	6	15		2.01	1	2	4		5.78	2109.56
27A	359	Yes	0.142857143	6	15		2.01	1	2	4		4.91	1790.39
27B	359	Yes	0.142857143	6	15		2.01	1	2	4		4.91	1790.39
27C	359	Yes	0.142857143	6	15		2.01	1	2	4		4.91	1790.39
29A	204	Yes	0.142857143	6	15		2.01	1	2	4		2.79	1017.38
31A	128	Yes	0.142857143	6	15		2.01	1	2	4		1.75	638.35
31B	65	Yes	0.142857143	6	15		2.01	1	2	4		0.89	324.16
31C	208	Yes	0.142857143	6	15		2.01	1	2	4		2.84	1037.33
Ave A	1585	Yes	0.142857143	6	15		2.01	1	2	4		21.66	7904.63
Ave B	1920	Yes	0.142857143	6	30	4	2.10	1	2	4	2	50.96	18600.78
Ave C	2858	Yes	0.142857143	6	15		2.01	1	2	4		39.05	14253.27
Gate Rd	68	Yes	0.142857143	6	15		2.01	1	2	4		0.93	339.13
N. Field Svc Rd	1563	No	0.142857143	6	5		2.01	1	2	4		9.52	3472.98
River House Svc. Rd	319	No	0.142857143	6	5		2.01	1	2	4		1.94	708.82
S. Field Svc Rd	2658	No	0.142857143	6	5		2.01	1	2	4		16.18	5906.07
S. Rail Svc Rd	1162	No	0.142857143	6	5		2.01	1	2	4		7.07	2581.96

	Heavy Machinery	Work Trucks	Passenger Cars	Delivery Trucks
Vehicle Wt (lb) ³	6000	4000	4000	6000

Footnotes:

^a The Segment Names, Length, & Paved/Unpaved designations were determined from the R-6202.dwg file provided by Braskem.

^b Vehicle per day data is based on information provided by Jim Fain and Melissa Essman and engineering estimates.

^c Vehicle weights of work trucks, passenger cars, and delivery trucks are based on typical vehicles. The heavy machinery vehicle weight is based on equivalent of the typical heavy machinery used at the facility, the Caterpillar skid steer loader weight. (5709 lb).

Table 10.B-Unpaved

Braskem Neal Unpaved Roads

The emissions from rolling stock per vehicle mile traveled (VMT) have been calculated using the equations provided in AP-42 for unpaved roads.

UNPAVED ROADS - source AP-42, Section 13.2.2, Revision Date 11/06.

$$E = k \left(\frac{s}{12} \right)^a \left(\frac{W}{3} \right)^b \left(\frac{365 - p}{365} \right)$$

	PM 2.5	PM 10	TSP
k	0.15	1.5	4.9
a	0.9	0.9	0.7
b	0.45	0.45	0.45
P	140	140	140

Nomenclature:
 E: Emission Factor
 k, a, and b: Particle Size Multiplier and exponents (dimensionless)
 s: Silt content of road surface material (%)
 W: Mean vehicle weight (tons)
 p: Mean # of days with at least 0.01 inches of

The potential annual emission rates are calculated assuming the facility operates 365 days. The value P is from AP-42, Figure 13.2.1-2 (Revision Date: 12/06).

Segment I.D.	s	s Source	W	W Source	TSP Emission Factor (lbs/VMT)	TSP EF Source	PM ₁₀ Emission Factor (lbs/VMT)	PM10 EF Source	PM _{2.5} Emission Factor (lbs/VMT)	PM2.5 EF Source	VMT/yr	TSP Emissions (lbs/yr)	PM ₁₀ Emissions (lbs/yr)	PM _{2.5} Emissions (lbs/yr)	TSP Emissions (tpy)	PM ₁₀ Emissions (tpy)	PM _{2.5} Emissions (tpy)
N. Field Svc Rd	4.9	AP-42 Table 13.2.2-1 Western Surface Coal Mining Plant Road	2.01	Road Segments Worksheet	1.35	AP-42 Sec 13.2.2.2	0.35	AP-42 Sec 13.2.2.2	0.03	AP-42 Sec 13.2.2.2	3,473	4682.81	1198.41	119.84	2.34	0.60	0.06
River House Svc. Rd	4.9	AP-42 Table 13.2.2-1 Western Surface Coal Mining Plant Road	2.01	Road Segments Worksheet	1.35	AP-42 Sec 13.2.2.2	0.35	AP-42 Sec 13.2.2.2	0.03	AP-42 Sec 13.2.2.2	709	955.74	244.59	24.46	0.48	0.12	0.01
S. Field Svc Rd	4.9	AP-42 Table 13.2.2-1 Western Surface Coal Mining Plant Road	2.01	Road Segments Worksheet	1.35	AP-42 Sec 13.2.2.2	0.35	AP-42 Sec 13.2.2.2	0.03	AP-42 Sec 13.2.2.2	5,906	7963.47	2037.98	203.80	3.98	1.02	0.10
S. Rail Svc Rd	4.9	AP-42 Table 13.2.2-1 Western Surface Coal Mining Plant Road	2.01	Road Segments Worksheet	1.35	AP-42 Sec 13.2.2.2	0.35	AP-42 Sec 13.2.2.2	0.03	AP-42 Sec 13.2.2.2	2,582	3481.40	890.95	89.09	1.74	0.45	0.04
Total:											12669.83	17083.41	4371.92	437.19	8.54	2.19	0.22

Table 10.C-Paved

Braskem Neal Paved Roads

Nomenclature:

The emissions from rolling stock per vehicle mile traveled (VMT) have been calculated using the equations provided in AP-42 for paved roads.

PAVED ROADS - source AP-42 Section 13.2.1.3 Equation (2), Revision Date 1/11.

- k: Emission Factor (lbs/VMT)
- k: Particle Size Multiplier (dimensionless)
- sL: Silt loading (grams/m²)
- W: Mean vehicle weight (tons)
- C: Emission Factor for brake, exhaust, and tire wear
- P: Days w/ .01 in of rain
- N: Number of days in averaging period

$$E = \left[k(sL)^{0.91}(W)^{1.02} + C \right] * \left(1 - \frac{P}{4N} \right) \text{ (lbs/VMT)}$$

	PM 2.5	PM 10	TSP
k	0.00054	0.0022	0.011
C	0.00036	0.00047	0.00047
P	140	140	140
N	365	365	365

Equation 2 has been modified to add the C factors from the November 2006 edition into the empirical equation to account for emissions from tire wear, brake wear, and exhaust.

AP-42 section 13.2.1.3 (1/11) provides the range of silt loadings 0.03- 400 grams/sq. meter. The potential annual emission rates are calculated assuming the facility operates 365 days.

Segment ID.	Paved/Un	sL	sL Source ^a	W	W Source	TSP Emission Factor (lbs/VMT)	TSP EF Source	PM ₁₀ Emission Factor (lbs/VMT)	PM ₁₀ EF Source	PM _{2.5} Emission Factor (lbs/VMT)	PM _{2.5} EF Source	VMT/yr	TSP Emissions (lbs/yr)	PM ₁₀ Emissions (lbs/yr)	PM _{2.5} Emissions (lbs/yr)	TSP Emissions (tpy)	PM ₁₀ Emissions (tpy)	PM _{2.5} Emissions (tpy)	
24	P	7.4	AP-42 Table 13.2.1-4	2.007	Road Segments Worksheet	0.13	AP-42 13.2.1.3	0.03	AP-42 13.2.1.3	6.47E-03	AP-42 13.2.1.3	2,000	250.97	50.87	12.93	0.13	0.03	0.01	
25	P	7.4	AP-42 Table 13.2.1-4	2.007	Road Segments Worksheet	0.13	AP-42 13.2.1.3	0.03	AP-42 13.2.1.3	6.47E-03	AP-42 13.2.1.3	2,828	354.87	71.93	18.28	0.18	0.04	0.01	
26	P	7.4	AP-42 Table 13.2.1-4	2.007	Road Segments Worksheet	0.13	AP-42 13.2.1.3	0.03	AP-42 13.2.1.3	6.47E-03	AP-42 13.2.1.3	3,117	391.17	79.29	20.15	0.20	0.04	0.01	
27	P	7.4	AP-42 Table 13.2.1-4	2.007	Road Segments Worksheet	0.13	AP-42 13.2.1.3	0.03	AP-42 13.2.1.3	6.47E-03	AP-42 13.2.1.3	3,117	391.17	79.29	20.15	0.20	0.04	0.01	
28	P	7.4	AP-42 Table 13.2.1-4	2.007	Road Segments Worksheet	0.13	AP-42 13.2.1.3	0.03	AP-42 13.2.1.3	6.47E-03	AP-42 13.2.1.3	3,117	391.17	79.29	20.15	0.20	0.04	0.01	
29	P	7.4	AP-42 Table 13.2.1-4	2.007	Road Segments Worksheet	0.13	AP-42 13.2.1.3	0.03	AP-42 13.2.1.3	6.47E-03	AP-42 13.2.1.3	2,947	369.89	74.98	19.06	0.18	0.04	0.01	
30	P	7.4	AP-42 Table 13.2.1-4	2.165	Road Segments Worksheet	0.14	AP-42 13.2.1.3	0.03	AP-42 13.2.1.3	6.96E-03	AP-42 13.2.1.3	2,338	316.91	64.18	16.27	0.16	0.03	0.01	
31	P	7.4	AP-42 Table 13.2.1-4	2.103	Road Segments Worksheet	0.13	AP-42 13.2.1.3	0.03	AP-42 13.2.1.3	6.77E-03	AP-42 13.2.1.3	6,869	904.14	183.16	46.48	0.45	0.09	0.02	
24A	P	7.4	AP-42 Table 13.2.1-4	2.007	Road Segments Worksheet	0.13	AP-42 13.2.1.3	0.03	AP-42 13.2.1.3	6.47E-03	AP-42 13.2.1.3	743	93.25	18.90	4.80	0.05	0.01	0.00	
24B	P	7.4	AP-42 Table 13.2.1-4	2.007	Road Segments Worksheet	0.13	AP-42 13.2.1.3	0.03	AP-42 13.2.1.3	6.47E-03	AP-42 13.2.1.3	2,154	270.38	54.81	13.93	0.14	0.03	0.01	
25A	P	7.4	AP-42 Table 13.2.1-4	2.007	Road Segments Worksheet	0.13	AP-42 13.2.1.3	0.03	AP-42 13.2.1.3	6.47E-03	AP-42 13.2.1.3	1,466	184.01	37.30	9.48	0.09	0.02	0.00	
25B	P	7.4	AP-42 Table 13.2.1-4	2.007	Road Segments Worksheet	0.13	AP-42 13.2.1.3	0.03	AP-42 13.2.1.3	6.47E-03	AP-42 13.2.1.3	1,466	184.01	37.30	9.48	0.09	0.02	0.00	
26A	P	7.4	AP-42 Table 13.2.1-4	2.007	Road Segments Worksheet	0.13	AP-42 13.2.1.3	0.03	AP-42 13.2.1.3	6.47E-03	AP-42 13.2.1.3	2,110	264.74	53.67	13.64	0.13	0.03	0.01	
26B	P	7.4	AP-42 Table 13.2.1-4	2.007	Road Segments Worksheet	0.13	AP-42 13.2.1.3	0.03	AP-42 13.2.1.3	6.47E-03	AP-42 13.2.1.3	1,581	198.40	40.22	10.22	0.10	0.02	0.01	
26C	P	7.4	AP-42 Table 13.2.1-4	2.007	Road Segments Worksheet	0.13	AP-42 13.2.1.3	0.03	AP-42 13.2.1.3	6.47E-03	AP-42 13.2.1.3	2,110	264.74	53.67	13.64	0.13	0.03	0.01	
26D	P	7.4	AP-42 Table 13.2.1-4	2.007	Road Segments Worksheet	0.13	AP-42 13.2.1.3	0.03	AP-42 13.2.1.3	6.47E-03	AP-42 13.2.1.3	2,110	264.74	53.67	13.64	0.13	0.03	0.01	
27A	P	7.4	AP-42 Table 13.2.1-4	2.007	Road Segments Worksheet	0.13	AP-42 13.2.1.3	0.03	AP-42 13.2.1.3	6.47E-03	AP-42 13.2.1.3	1,790	224.69	45.55	11.58	0.11	0.02	0.01	
27B	P	7.4	AP-42 Table 13.2.1-4	2.007	Road Segments Worksheet	0.13	AP-42 13.2.1.3	0.03	AP-42 13.2.1.3	6.47E-03	AP-42 13.2.1.3	1,790	224.69	45.55	11.58	0.11	0.02	0.01	
27C	P	7.4	AP-42 Table 13.2.1-4	2.007	Road Segments Worksheet	0.13	AP-42 13.2.1.3	0.03	AP-42 13.2.1.3	6.47E-03	AP-42 13.2.1.3	1,790	224.69	45.55	11.58	0.11	0.02	0.01	
29A	P	7.4	AP-42 Table 13.2.1-4	2.007	Road Segments Worksheet	0.13	AP-42 13.2.1.3	0.03	AP-42 13.2.1.3	6.47E-03	AP-42 13.2.1.3	1,017	127.68	25.88	6.58	0.06	0.01	0.00	
31A	P	7.4	AP-42 Table 13.2.1-4	2.007	Road Segments Worksheet	0.13	AP-42 13.2.1.3	0.03	AP-42 13.2.1.3	6.47E-03	AP-42 13.2.1.3	638	80.11	16.24	4.13	0.04	0.01	0.00	
31B	P	7.4	AP-42 Table 13.2.1-4	2.007	Road Segments Worksheet	0.13	AP-42 13.2.1.3	0.03	AP-42 13.2.1.3	6.47E-03	AP-42 13.2.1.3	324	40.68	8.25	2.10	0.02	0.00	0.00	
31C	P	7.4	AP-42 Table 13.2.1-4	2.007	Road Segments Worksheet	0.13	AP-42 13.2.1.3	0.03	AP-42 13.2.1.3	6.47E-03	AP-42 13.2.1.3	1,037	130.18	26.39	6.71	0.07	0.01	0.00	
Ave A	P	7.4	AP-42 Table 13.2.1-4	2.007	Road Segments Worksheet	0.13	AP-42 13.2.1.3	0.03	AP-42 13.2.1.3	6.47E-03	AP-42 13.2.1.3	7,905	992.00	201.09	51.11	0.50	0.10	0.03	
Ave B	P	7.4	AP-42 Table 13.2.1-4	2.103	Road Segments Worksheet	0.13	AP-42 13.2.1.3	0.03	AP-42 13.2.1.3	6.77E-03	AP-42 13.2.1.3	18,601	2448.44	496.01	125.86	1.22	0.25	0.06	
Ave C	P	7.4	AP-42 Table 13.2.1-4	2.007	Road Segments Worksheet	0.13	AP-42 13.2.1.3	0.03	AP-42 13.2.1.3	6.47E-03	AP-42 13.2.1.3	14,253	1788.74	362.59	92.15	0.89	0.18	0.05	
Gate Rd	P	7.4	AP-42 Table 13.2.1-4	2.007	Road Segments Worksheet	0.13	AP-42 13.2.1.3	0.03	AP-42 13.2.1.3	6.47E-03	AP-42 13.2.1.3	339	42.56	8.63	2.19	0.02	0.00	0.00	
Total:													89558.33	11419.01	2314.25	587.85	5.71	1.16	0.29

^a The lowest mean silt loading provided in Table 13.2.1-4 was used since none of the categories listed in the table describe the Neal Plant and it is not expected that the facility would have a high silt loading.

Table 11-DS503 Vent

PROCESS PARAMETERS

Maximum Flow Rate	92.80 SCFM
Maximum Concentration	4236.12 ppm

CONVERSION

Temperature Conversion	1.8 °R/K
Pressure Conversion	101.325 kPa/atm
Standard Temperature (T)	293.0 K
Standard Temperature (T)	527 °R
Standard Pressure (P)	101.3 kPa
Standard Pressure (P)	1.0 atm
Universal Gas Constant (R)	0.7302 (atm·cf)/(lbmol·°R)
Molar Volume @ STP	385.2 scf/lbmol
Molecular Weight of Nitrogen	28 lb/lbmole

NIST SP1038

NIST SP1038

Definition of "Standard Conditions" in 40 CFR 60.2

= Standard Temperature (293.0 K) x 1.8 (°R/K)

Definition of "Standard Conditions" in 40 CFR 60.2

= Standard Pressure (101.3 kPa) / 101.3 (kPa/atm)

Table 1-9, Values of the Gas-Law Constant - Perry's Chemical Engineer's Handbook - 7th Edition

Molar Volume (V/n) = R [0.7302 (atm·cf)/(lbmol·°R)] x T (527.4 °R) / P (1.0 atm); Ideal Gas Law at STP

EMISSION CALCULATION

Pollutants	Potential Hourly Emissions ^a (lb/hr)	Potential Daily Emissions ^b (lb/day)	Annual Emissions	
			(lb/yr) ^c	(tpy) ^d
VOC	1.71	41.15	15,019.58	7.51

^a Hourly Emission Rate (lb/hr) = Maximum Flow Rate (SCFM) x 60 (min/hr) / Molar Volume @ STP (ft³/lbmole) x Molecular Weight of Nitrogen (lb/lbmole) x [Maximum Concentration (ppm) / 10⁶]

^b Daily Emission Rate (lb/day) = Hourly Emission Rate (lb/hr) x 24 (hr/day)

^c Annual Emission Rate (lb/yr) = Hourly Emission Rate (lb/hr) x 8,760 (hr/yr)

^d Annual Emission Rate (tpy) = Annual Emission Rate (lb/yr) / 2,000 (lb/ton)

APPENDIX B. CONFIDENTIALITY CLAIMS

Confidential Business Information Claim

Company Name	Braskem America, Inc.
Company Address	200 Big Sandy Road, Kenova, WV 25530
Responsible Official	Jeffrey Blatt
Confidential Information Designee in State of WV	Name Jeffrey Blatt
	Title Facilities Manager
	Address 200 Big Sandy Road, Kenova, WV 25530
	Phone (304) 453-1371
	Fax (304) 453-5916
Person/Title <i>Submitting Confidential Information</i>	Same as above

Reason for Submittal of Confidential Information
Title V operating permit renewal application

Identification of Confidential Information	Rationale for Confidential Claim	Confidential Treatment Time Period
Attachment B. Plot Plan, Attachment C. Process Flow Diagrams, and Process Description	<p>Release of the facility plot plan and the process flow diagrams would allow competitors to determine process technology and provide an unfair competitive advantage.</p> <p>Release of the specific information contained in the process description would allow competitors to determine process technology and production capacity and provide an unfair competitive advantage.</p> <p>Confidential information is distributed on a need-to-know basis. Braskem has implemented control measures to determine if diagrams/plot plans are not the originals. Additionally, distribution of confidential information to outside personnel needs to be approved by a supervisor. Upon distribution of the information, a transmittal letter accompanies it stating the following</p>	Permanent

Identification of Confidential Information	Rationale for Confidential Claim	Confidential Treatment Time Period
	<p><i>The Documents accompanying this transmittal contain confidential information belonging to the sender, which may be legally privileged. The information is intended only for use of the individual or entity named above. If you are not the intended recipient, you are hereby notified that any disclosure, copying, distribution or taking any action in reliance on the comments of this transmittal information is strictly prohibited.</i></p>	

Responsible Official Signature	
Responsible Official Title	Facilities Manager
Date Signed	

NOTE Must be signed and dated in **BLUE INK**.