

**REGULATION 13  
CLASS II ADMINISTRATIVE UPDATE  
FOR A  
COATING MANUFACTURING FACILITY**

*Prepared for:*

**Multicoat Products, Inc.**  
PO Box 77  
Frazier's Bottom, West Virginia 25082

*Prepared by:*

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Project No. 0101-15-0182

July 2015

**POTESTA**

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Attachments not applicable to, and not included in, this application: Q, R and S

**SECTION I - III**  
**GENERAL APPLICANT INFORMATION**



WEST VIRGINIA DEPARTMENT OF ENVIRONMENTAL PROTECTION  
**DIVISION OF AIR QUALITY**

601 57<sup>th</sup> Street, SE  
 Charleston, WV 25304  
 (304) 926-0475  
[www.dep.wv.gov/daq](http://www.dep.wv.gov/daq)

**APPLICATION FOR NSR PERMIT  
 AND  
 TITLE V PERMIT REVISION  
 (OPTIONAL)**

PLEASE CHECK ALL THAT APPLY TO NSR (45CSR13) (IF KNOWN):

- CONSTRUCTION     MODIFICATION     RELOCATION  
 CLASS I ADMINISTRATIVE UPDATE     TEMPORARY  
 CLASS II ADMINISTRATIVE UPDATE     AFTER-THE-FACT

PLEASE CHECK TYPE OF 45CSR30 (TITLE V) REVISION (IF ANY):

- ADMINISTRATIVE AMENDMENT     MINOR MODIFICATION  
 SIGNIFICANT MODIFICATION

IF ANY BOX ABOVE IS CHECKED, INCLUDE TITLE V REVISION INFORMATION AS ATTACHMENT S TO THIS APPLICATION

*FOR TITLE V FACILITIES ONLY: Please refer to "Title V Revision Guidance" in order to determine your Title V Revision options (Appendix A, "Title V Permit Revision Flowchart") and ability to operate with the changes requested in this Permit Application.*

**Section I. General**

1. Name of applicant (as registered with the WV Secretary of State's Office): Multicoat Products, Inc.		2. Federal Employer ID No. (FEIN): 33-079-4084-001	
3. Name of facility (if different from above): Winfield Facility		4. The applicant is the: <input type="checkbox"/> OWNER <input type="checkbox"/> OPERATOR <input checked="" type="checkbox"/> BOTH	
5A. Applicant's mailing address: PO Box 77 Frazier's Bottom, WV 25082		5B. Facility's present physical address: 1 Putnam Business Park Drive Frazier's Bottom, West Virginia 25082	
6. West Virginia Business Registration. Is the applicant a resident of the State of West Virginia? <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO ⇨ If YES, provide a copy of the <b>Certificate of Incorporation/Organization/Limited Partnership</b> (one page) including any name change amendments or other Business Registration Certificate as <b>Attachment A</b> . ⇨ If NO, provide a copy of the <b>Certificate of Authority/Authority of L.L.C./Registration</b> (one page) including any name change amendments or other Business Certificate as <b>Attachment A</b> .			
7. If applicant is a subsidiary corporation, please provide the name of parent corporation: NA			
8. Does the applicant own, lease, have an option to buy or otherwise have control of the <i>proposed site</i> ? <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO ⇨ If YES, please explain: Own ⇨ If NO, you are not eligible for a permit for this source.			
9. Type of plant or facility (stationary source) to be <b>constructed, modified, relocated, administratively updated</b> or <b>temporarily permitted</b> (e.g., coal preparation plant, primary crusher, etc.): Coatings Manufacturer.		10. North American Industry Classification System (NAICS) code for the facility:  325510/327999	
11A. DAQ Plant ID No. (for existing facilities only):  NA		11B. List all current 45CSR13 and 45CSR30 (Title V) permit numbers associated with this process (for existing facilities only):  NA	

*All of the required forms and additional information can be found under the Permitting Section of DAQ's website, or requested by phone.*

12A.

- ⇒ For **Modifications, Administrative Updates** or **Temporary permits** at an existing facility, please provide directions to the *present location* of the facility from the nearest state road;
- ⇒ For **Construction** or **Relocation permits**, please provide directions to the *proposed new site location* from the nearest state road. Include a **MAP** as **Attachment B**.

Facility is located at the intersection of State Route 817 and County Route 35/29 approximately 2.4 miles south on 817 (Winfield Road) from the Buffalo Bridge.

12.B. New site address (if applicable):  
1 Putnam Business Park Drive  
Frazier's Bottom, West Virginia 25082

12C. Nearest city or town:  
Frazier's Bottom

12D. County:  
Putnam

12.E. UTM Northing (KM): 4,268.397

12F. UTM Easting (KM): 414.927

12G. UTM Zone: 17

13. Briefly describe the proposed change(s) at the facility:

Construction of a dry and wet coatings manufacturing facility, as built revisions (dust collector pickup point and building heaters).

14A. Provide the date of anticipated installation or change: Facility is operating.

- ⇒ If this is an **After-The-Fact** permit application, provide the date upon which the proposed change did happen:

14B. Date of anticipated Start-Up if a permit is granted:  
Facility is operating.

14C. Provide a **Schedule** of the planned **Installation of/Change** to and **Start-Up** of each of the units proposed in this permit application as **Attachment C** (if more than one unit is involved).

15. Provide maximum projected **Operating Schedule** of activity/activities outlined in this application:

24 Hours Per Day 7 Days Per Week 52 Weeks Per Year

16. Is demolition or physical renovation at an existing facility involved?  YES  NO

17. **Risk Management Plans.** If this facility is subject to 112(r) of the 1990 CAAA, or will become subject due to proposed changes (for applicability help see [www.epa.gov/ceppo](http://www.epa.gov/ceppo)), submit your **Risk Management Plan (RMP)** to U. S. EPA Region III.

18. **Regulatory Discussion.** List all Federal and State air pollution control regulations that you believe are applicable to the proposed process (*if known*). A list of possible applicable requirements is also included in Attachment S of this application (Title V Permit Revision Information). Discuss applicability and proposed demonstration(s) of compliance (*if known*). Provide this information as **Attachment D**.

### ***Section II. Additional attachments and supporting documents.***

19. Include a check payable to WVDEP – Division of Air Quality with the appropriate **application fee** (per 45CSR22 and 45CSR13).

20. Include a **Table of Contents** as the first page of your application package.

21. Provide a **Plot Plan**, e.g. scaled map(s) and/or sketch(es) showing the location of the property on which the stationary source(s) is or is to be located as **Attachment E** (Refer to **Plot Plan Guidance**).

Indicate the location of the nearest occupied structure (e.g. church, school, business, residence).

22. Provide a **Detailed Process Flow Diagram(s)** showing each proposed or modified emissions unit, emission point and control device as **Attachment F**.

23. Provide a **Process Description** as **Attachment G**.

Also describe and quantify to the extent possible all changes made to the facility since the last permit review (if applicable).

*All of the required forms and additional information can be found under the Permitting Section of DAQ's website, or requested by phone.*

24. Provide **Material Safety Data Sheets (MSDS)** for all materials processed, used or produced as **Attachment H**.

For chemical processes, provide a MSDS for each compound emitted to the air.

25. Fill out the **Emission Units Table** and provide it as **Attachment I**.

26. Fill out the **Emission Points Data Summary Sheet (Table 1 and Table 2)** and provide it as **Attachment J**.

27. Fill out the **Fugitive Emissions Data Summary Sheet** and provide it as **Attachment K**.

28. Check all applicable **Emissions Unit Data Sheets** listed below:

Bulk Liquid Transfer Operations

Haul Road Emissions

Quarry

Chemical Processes

Hot Mix Asphalt Plant

Solid Materials Sizing, Handling and Storage Facilities

Concrete Batch Plant

Incinerator

Storage Tanks

Grey Iron and Steel Foundry

Indirect Heat Exchanger

General Emission Unit, specify Dry Coating Mixer, Wet Coating Mixer, Building Heaters

Fill out and provide the **Emissions Unit Data Sheet(s)** as **Attachment L**.

29. Check all applicable **Air Pollution Control Device Sheets** listed below:

Absorption Systems

Baghouse

Flare

Adsorption Systems

Condenser

Mechanical Collector

Afterburner

Electrostatic Precipitator

Wet Collecting System

Other Collectors, specify

Fill out and provide the **Air Pollution Control Device Sheet(s)** as **Attachment M**.

30. Provide all **Supporting Emissions Calculations** as **Attachment N**, or attach the calculations directly to the forms listed in Items 28 through 31.

31. **Monitoring, Recordkeeping, Reporting and Testing Plans.** Attach proposed monitoring, recordkeeping, reporting and testing plans in order to demonstrate compliance with the proposed emissions limits and operating parameters in this permit application. Provide this information as **Attachment O**.

➤ Please be aware that all permits must be practically enforceable whether or not the applicant chooses to propose such measures. Additionally, the DAQ may not be able to accept all measures proposed by the applicant. If none of these plans are proposed by the applicant, DAQ will develop such plans and include them in the permit.

32. **Public Notice.** At the time that the application is submitted, place a **Class I Legal Advertisement** in a newspaper of general circulation in the area where the source is or will be located (See 45CSR§13-8.3 through 45CSR§13-8.5 and *Example Legal Advertisement* for details). Please submit the **Affidavit of Publication** as **Attachment P** immediately upon receipt.

33. **Business Confidentiality Claims.** Does this application include confidential information (per 45CSR31)?

YES

NO

➤ If YES, identify each segment of information on each page that is submitted as confidential and provide justification for each segment claimed confidential, including the criteria under 45CSR§31-4.1, and in accordance with the DAQ's "*Precautionary Notice – Claims of Confidentiality*" guidance found in the *General Instructions* as **Attachment Q**.

### ***Section III. Certification of Information***

34. **Authority/Delegation of Authority.** Only required when someone other than the responsible official signs the application. Check applicable **Authority Form** below:

Authority of Corporation or Other Business Entity

Authority of Partnership

Authority of Governmental Agency

Authority of Limited Partnership

Submit completed and signed **Authority Form** as **Attachment R**.

*All of the required forms and additional information can be found under the Permitting Section of DAQ's website, or requested by phone.*

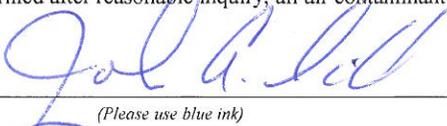
35A. **Certification of Information.** To certify this permit application, a Responsible Official (per 45CSR§13-2.22 and 45CSR§30-2.28) or Authorized Representative shall check the appropriate box and sign below.

**Certification of Truth, Accuracy, and Completeness**

I, the undersigned  **Responsible Official** /  **Authorized Representative**, hereby certify that all information contained in this application and any supporting documents appended hereto, is true, accurate, and complete based on information and belief after reasonable inquiry I further agree to assume responsibility for the construction, modification and/or relocation and operation of the stationary source described herein in accordance with this application and any amendments thereto, as well as the Department of Environmental Protection, Division of Air Quality permit issued in accordance with this application, along with all applicable rules and regulations of the West Virginia Division of Air Quality and W.Va. Code § 22-5-1 et seq. (State Air Pollution Control Act). If the business or agency changes its Responsible Official or Authorized Representative, the Director of the Division of Air Quality will be notified in writing within 30 days of the official change.

**Compliance Certification**

Except for requirements identified in the Title V Application for which compliance is not achieved, I, the undersigned hereby certify that, based on information and belief formed after reasonable inquiry, all air contaminant sources identified in this application are in compliance with all applicable requirements.

SIGNATURE  DATE: 7-1-15  
(Please use blue ink) (Please use blue ink)

35B. Printed name of signee: John A. Dill		35C. Title: Vice President/General Manager
35D. E-mail: jdill@multicoat.com	36E. Phone: (800) 660-6729	36F. FAX: (304) 586-0620 937-2109
36A. Printed name of contact person (if different from above): Same		36B. Title:
36C. E-mail:	36D. Phone:	36E. FAX:

**PLEASE CHECK ALL APPLICABLE ATTACHMENTS INCLUDED WITH THIS PERMIT APPLICATION:**

<input checked="" type="checkbox"/> Attachment A: Business Certificate	<input checked="" type="checkbox"/> Attachment K: Fugitive Emissions Data Summary Sheet
<input checked="" type="checkbox"/> Attachment B: Map(s)	<input checked="" type="checkbox"/> Attachment L: Emissions Unit Data Sheet(s)
<input checked="" type="checkbox"/> Attachment C: Installation and Start Up Schedule	<input checked="" type="checkbox"/> Attachment M: Air Pollution Control Device Sheet(s)
<input checked="" type="checkbox"/> Attachment D: Regulatory Discussion	<input checked="" type="checkbox"/> Attachment N: Supporting Emissions Calculations
<input checked="" type="checkbox"/> Attachment E: Plot Plan	<input checked="" type="checkbox"/> Attachment O: Monitoring/Recordkeeping/Reporting/Testing Plans
<input checked="" type="checkbox"/> Attachment F: Detailed Process Flow Diagram(s)	<input checked="" type="checkbox"/> Attachment P: Public Notice
<input checked="" type="checkbox"/> Attachment G: Process Description	<input type="checkbox"/> Attachment Q: Business Confidential Claims
<input checked="" type="checkbox"/> Attachment H: Material Safety Data Sheets (MSDS)	<input type="checkbox"/> Attachment R: Authority Forms
<input checked="" type="checkbox"/> Attachment I: Emission Units Table	<input type="checkbox"/> Attachment S: Title V Permit Revision Information
<input checked="" type="checkbox"/> Attachment J: Emission Points Data Summary Sheet	<input checked="" type="checkbox"/> Application Fee

*Please mail an original and three (3) copies of the complete permit application with the signature(s) to the DAQ, Permitting Section, at the address listed on the first page of this application. Please DO NOT fax permit applications.*

**FOR AGENCY USE ONLY – IF THIS IS A TITLE V SOURCE:**

Forward 1 copy of the application to the Title V Permitting Group and:

For Title V Administrative Amendments:

NSR permit writer should notify Title V permit writer of draft permit,

For Title V Minor Modifications:

Title V permit writer should send appropriate notification to EPA and affected states within 5 days of receipt,

NSR permit writer should notify Title V permit writer of draft permit.

For Title V Significant Modifications processed in parallel with NSR Permit revision:

NSR permit writer should notify a Title V permit writer of draft permit,

Public notice should reference both 45CSR13 and Title V permits,

EPA has 45 day review period of a draft permit.

All of the required forms and additional information can be found under the Permitting Section of DAQ's website, or requested by phone.

**ATTACHMENT A**  
**BUSINESS CERTIFICATE**

**WEST VIRGINIA  
STATE TAX DEPARTMENT  
BUSINESS REGISTRATION  
CERTIFICATE**

ISSUED TO:  
**MULTICOAT PRODUCTS INC  
2922 WINFIELD RD  
WINFIELD, WV 25213-9790**

**BUSINESS REGISTRATION ACCOUNT NUMBER: 1027-0397**

This certificate is issued on: 06/24/2011

*This certificate is issued by  
the West Virginia State Tax Commissioner  
in accordance with Chapter 11, Article 12, of the West Virginia Code*

*The person or organization identified on this certificate is registered  
to conduct business in the State of West Virginia at the location above.*

This certificate is not transferrable and must be displayed at the location for which issued.

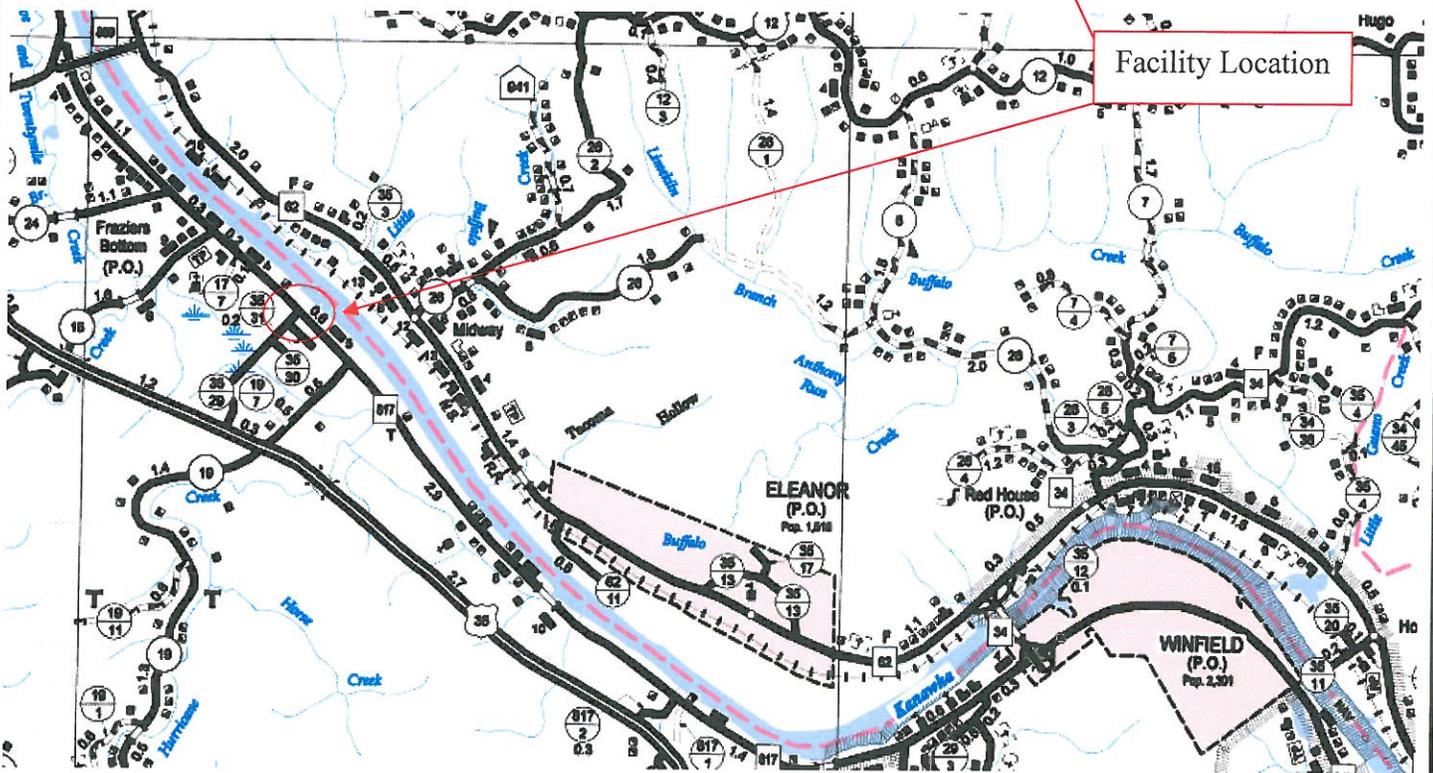
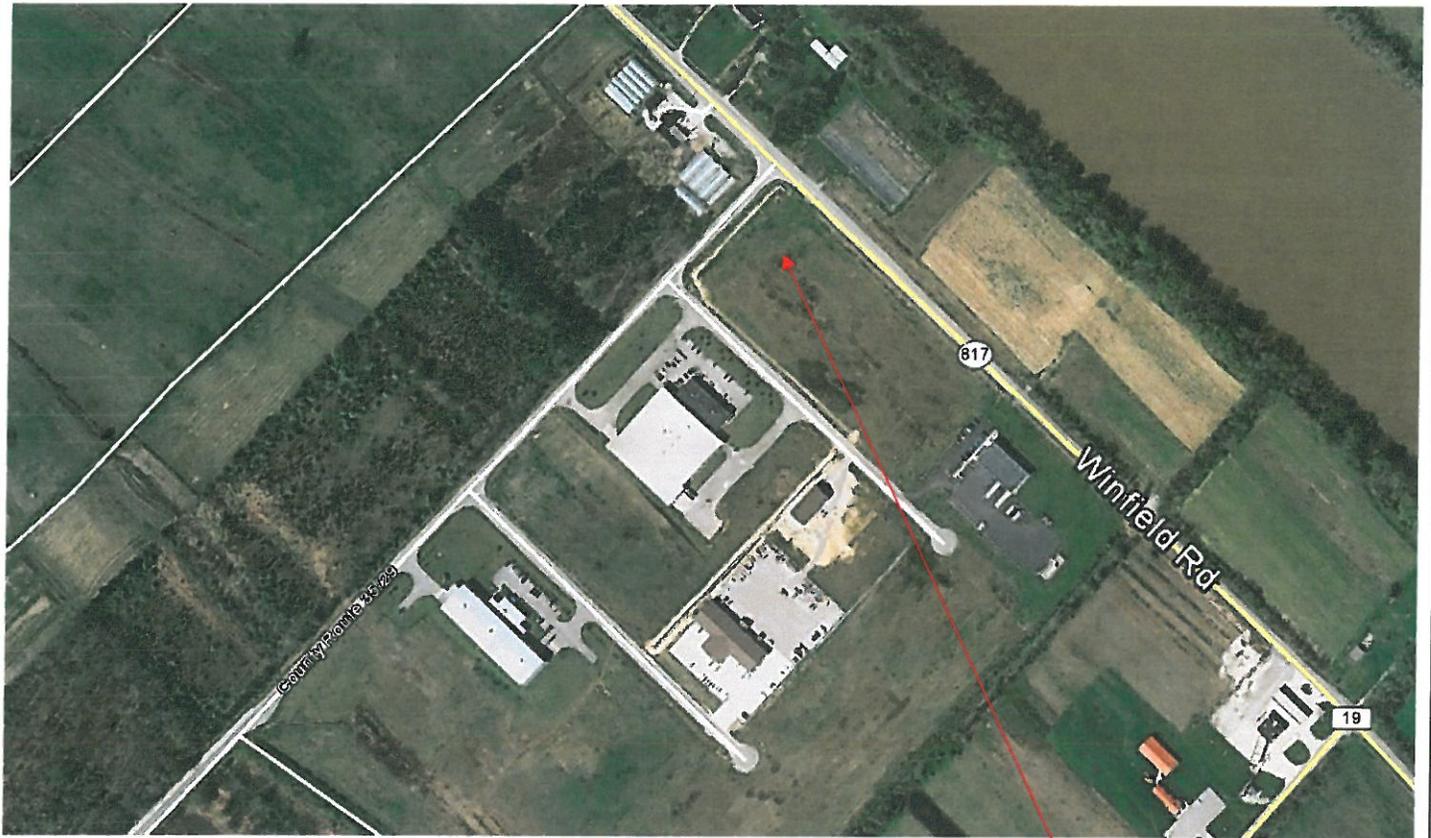
This certificate shall be permanent until cessation of the business for which the certificate of registration was granted or until it is suspended, revoked or cancelled by the Tax Commissioner.

Change in name or change of location shall be considered a cessation of the business and a new certificate shall be required.

TRAVELING/STREET VENDORS: Must carry a copy of this certificate in every vehicle operated by them.  
CONTRACTORS, DRILLING OPERATORS, TIMBER/LOGGING OPERATIONS: Must have a copy of this certificate displayed at every job site within West Virginia.

**ATTACHMENT B**

**AREA MAP**



7012 MacCorkle Avenue, S.E.  
 Charleston, West Virginia 25304  
 Phone: (304) 342-1400  
 Fax: (304) 343-9031

**Multicoat Products, Inc.**  
**Winfield Facility**  
 Frazier's Bottom, West Virginia  
 Project No. 0101-15-0182

**ATTACHMENT C**  
**INSTALLATION AND STARTUP SCHEDULE**

## **ATTACHMENT C**

### **INSTALLATION AND STARTUP SCHEDULE**

This facility has been constructed and started operations. The revisions requested herein are as-built revisions and do not entail physical modifications or construction at the facility.

**ATTACHMENT D**  
**REGULATORY DISCUSSION**

# ATTACHMENT D

## REGULATORY DISCUSSION

This facility is subject to Regulations 4, 7 and 13 as described below. The revisions requested herein do not change the applicable rules.

1. 45CSR4 - *To Prevent and Control the Discharge of Air Pollutants into the Open Air Which Causes or Contributes to an Objectionable Odor or Odors*

No person shall cause, suffer, allow, or permit the discharge of air pollutants which cause or contribute to objectionable odor at any location occupied by the public.

2. 45CSR7 - *To Prevent and Control Particulate Matter Air Pollution from Manufacturing Processes and Associated Operations*

45CSR7 applies to “source operations” located at “manufacturing processes” that, excluding those manufacturing processes specified under §45-7-10.5 and §45-7-10.6, have the potential to emit particulate matter and acid gases. The facility is subject to the requirements of 45CSR7 because it meets the definition of a “manufacturing process” as defined in Section 2.20. The source operations subject to 45CSR7 is the transport, transfer, and mixing of the materials in the Dry Process. The Wet Process appears to be exempt based on Section 10.5 as the process does not have uncontrolled particulate emissions which exceed one (1) pound per hour and 1,000 pounds per year.

Section 3.1 of 45CSR7 sets an opacity limit of 20% on applicable source operations.

Under Section 2.39 of 45CSR7, this operation would be defined as a “type ‘a’” source operation. Based on the maximum throughput of 40,000 pounds per hour, the maximum allowable emission of 28 pounds per hour is derived from Table 45-7A.

Section 5.1 of 45CSR7 states that each manufacturing process must include a system to minimize the emissions of fugitive particulate matter. The Dry Process is located inside a building and the bulk of the transfers are controlled by dust collectors.

Section 5.2 of 45CSR7 states that the owner or operator of a plant shall maintain particulate matter control of the plant premises, and plant owned, leased or controlled access roads, and use good operating practices in relation to stockpiling and general material handling to minimize particulate matter generation and atmospheric entrainment. The source of fugitive emissions from the facility is the haulroad, which is paved.

3. *45CSR13 - Permits for Construction, Modification, Relocation and Operation of Stationary Sources of Air Pollutants, Notification Requirements, Temporary Permits, General Permits, and Procedures for Evaluation.*

45CSR13 requires the facility to operate within the limits of the permit and in accordance with the permit application.

**ATTACHMENT E**

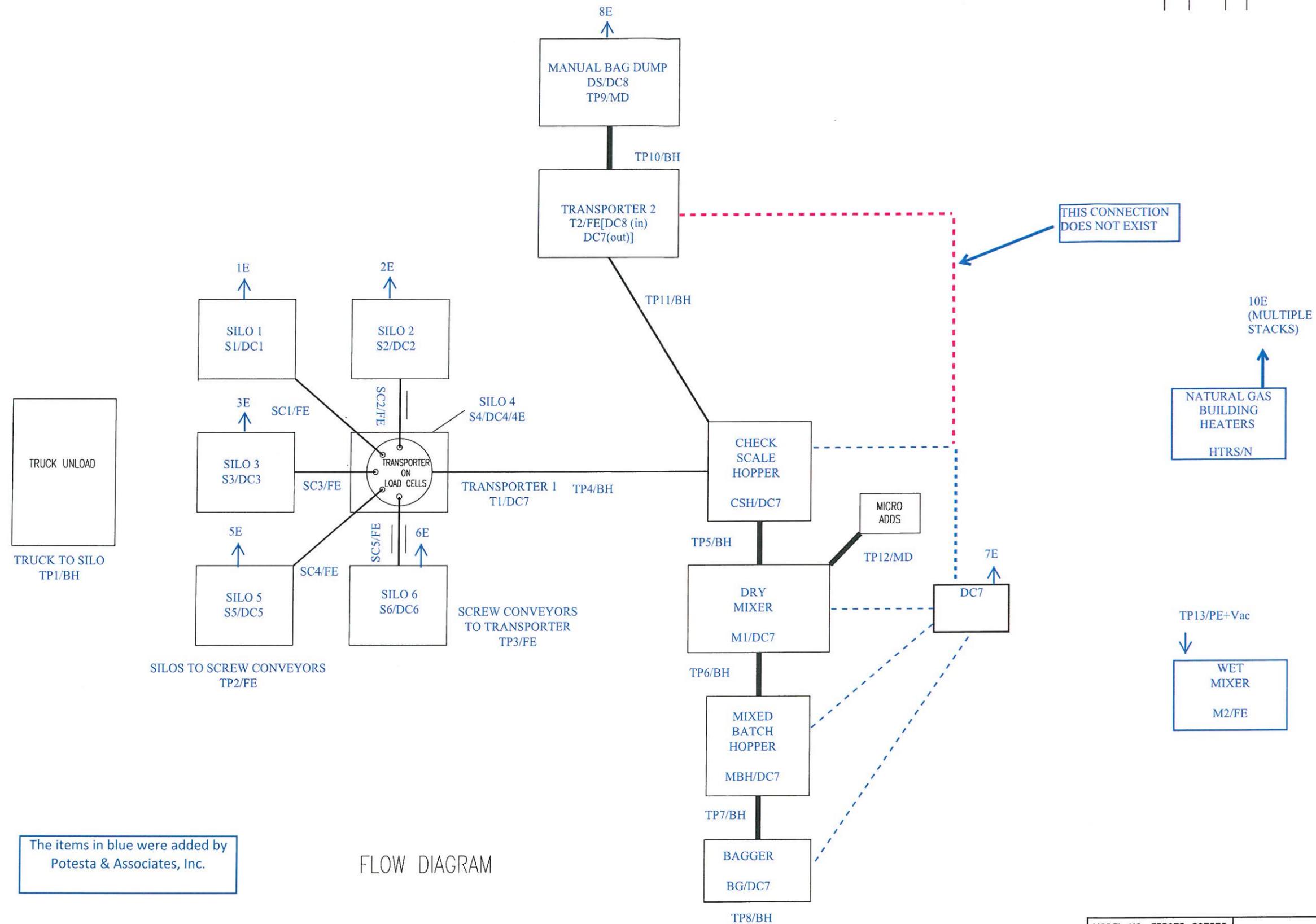
**PLOT PLAN**



**ATTACHMENT F**

**DETAILED PROCESS FLOW DIAGRAM**

NO.	DATE	BY	DESCRIPTION OF REVISION	CHKD BY



The items in blue were added by Potesta & Associates, Inc.

FLOW DIAGRAM



<small>THIS DRAWING IN DESIGN, DETAIL AND CONCEPT IS THE PROPERTY OF EIRICH MACHINES, INC. AND IS LOANED FOR THE SPECIFIC OCCASION AND PURPOSE. IT IS SUBJECT TO RETURN OR DEMAND AND MAY NOT BE COPIED, REPRODUCED OR USED WITHOUT THE WRITTEN PERMISSION OF EIRICH MACHINES, INC. ALL RIGHTS OF DESIGN AND INVENTION ARE RESERVED.</small>	<small>UNLESS OTHERWISE SPECIFIED ALL DIMENSIONS ARE IN INCHES</small>	<small>TOLERANCES UNLESS SPECIFIED ARE: FRACTIONAL : ± 1/4" ANGULAR : ± 2°</small>		<b>MODEL NO: FPB075-807373</b> <b>EQUIPMENT TYPE: FPB-075</b> <b>SERIAL NO: 807373 USA</b> <b>PROJECT NO: AA14/800002</b>	<b>MULTICOAT</b>
				<small>SCALE: NTS</small> <small>DATE: 8/06/2014</small>	<small>GA DRAWN BY: BAJ</small> <small>JOB CHECKED BY:</small> <small>JOB REF NO:</small>
<small>FRAZIERS BOTTOM MIX PLANT</small> <b>FLOW DIAGRAM</b>				<small>DRAWING NUMBER</small> <b>807373 103 001</b>	

**ATTACHMENT G**  
**PROCESS DESCRIPTION**

# ATTACHMENT G

## PROCESS DESCRIPTION

Multicoat Products, Inc. constructed a coatings manufacturing facility in Frazier's Bottom, Putnam County, West Virginia. The facility produces a variety of products for concrete, stucco, and other similar applications through two processes: the dry process and the wet process. This revision is to clarify the control on transport T2 and to add the building heaters to the permit.

### Dry Process

Cement and sand arrive by truck and are pneumatically transferred (TP1/BH) to silos 1-6 (S1/DC1-S6/DC6). S1/DC1-S6/DC6 transfer (TP2/FE) to screw conveyors (SC1/FE-SC5/FE) which transfer (TP3/FE) to Transporter T1/DC7 (S4/DC4 sits on top of T1/DC7 and transfers directly to it). T1/DC7 pneumatically transfers (TP4/BH) to the Check Scale Hopper (CSH/DC7), then to mixer M1/DC7 (TP5/BH). Additional ingredients are added (TP9/MD) by hand at the Manual Bag Dump Station (DS/DC8). This material feeds (TP10/BH) to transporter T2/FE (DC8 & DC7, transfer into T2 controlled by DC8, transfers out of T2 controlled by DC7), then to the CSH/DC7 (TP11/BH). Micro ads can be directly added to M1/DC7 by hand (TP12/MD). Once mixed, material transfers (TP6/BH) to the Mixed Batch Hopper (MBH/DC7) and then to the Bagger (BG/DC7, TP7/BH). Materials are transferred (TP8/BH) manually from the bagger to product bags.

The Dry Process consists of material transfers with the bulk of the material consisting of various cements and sand types. For example, the estimated most frequently produced product will consist of 93% by weight of sand/cement. Materials may be blended or individual materials may be bagged. The material transfers are represented by the emission factors from AP42 Section 11.12 Concrete Batching.

### Wet Process

Sealants, coatings, stains, etc. are mixed in the wet process. The mixer (M2/FE) is a maximum 550 gallon vessel which is manually charged with the necessary ingredients. The charge port is 18 inches in diameter and utilizes a vacuum whenever powdered additions are made. The operator charges the vessel (TP13/PE+Vac), the ingredients are mixed for the specified time, and the vessel is emptied through a spigot into product containers (pails/buckets).

VOC emissions were estimated using TANKS 4.09d. The number of potential charges per year was treated as tank turnovers in TANKS. Since approximately 50% by weight of the material charged to M2/FE per batch and per year will be water, and water is used in each anticipated product formulation, water was selected as the most representative liquid material to calculate VOC emissions. Average batch length is approximately 90 minutes; however, for calculation purposes, we have estimated two (2) batches per hour. Particulate emissions for loading dry ingredients were estimated using AP42 Table 11-12-2.

### **Natural Gas Building Heaters**

There are eleven total natural gas building heaters (HTRS) which are combined as one emission unit. The heaters may be used to keep raw stock or finished materials from freezing; therefore, the heaters are being added to the permit. The maximum heater rating is 150,000 Btu/hr HL3 Series heaters of which there are ten (10). There is also one (1) Reznor at 60,000 Btu/hr.

### **Vehicle Activity**

The facility has paved haul roads and both raw materials and products are trucked to and from the site. Emissions have been estimated for truck deliveries and shipments using AP42 Section 13.2.1 Paved Haulroads.

## **ATTACHMENT H**

### **MATERIAL SAFETY DATA SHEETS**

**There is no change to the material safety data sheets;  
therefore, they have not been included in this application.**

**ATTACHMENT I**  
**EMISSION UNITS TABLE**

**Attachment I**  
**Emission Units Table**  
(includes all emission units and air pollution control devices  
that will be part of this permit application review, regardless of permitting status)

Emission Unit ID <sup>1</sup>	Emission Point ID <sup>2</sup>	Emission Unit Description	Year Installed/ Modified	Design Capacity	Type <sup>3</sup> and Date of Change	Control Device <sup>4</sup>
S1	1E	Silo 1	2015	45 tons	New	DC1
S2	2E	Silo 2	2015	45 tons	New	DC2
S3	3E	Silo 3	2015	45 tons	New	DC3
S4	4E	Silo 4	2015	45 tons	New	DC4
S5	5E	Silo 5	2015	45 tons	New	DC5
S6	6E	Silo 6	2015	45 tons	New	DC6
T1	7E	Transporter 1	2015	4 tons	New	DC7
CSH	7E	Check Scale Hopper	2015	4.5 tons	New	DC7
M1	7E	Dry Mixer	2015	4.5 tons	New	DC7
MBH	7E	Mixed Batch Hopper	2015	4.5 tons	New	DC7
BG	7E	Bagger	2015	20,000 lbs/hr	New	DC7
DS	8E	Manual Bag Dump Station	2015	1 ton	New	DC8
T2	7E	Transporter 2	2015	1 ton	New	DC8 (in) DC7(out)
M2	9E	Wet Mixer	2015	550 gallons	New	FE
HTRS	10E	Natural Gas Building Heaters	2015	60 – 150 MBtu/hr	New	NA

<sup>1</sup> For Emission Units (or Sources) use the following numbering system: 1S, 2S, 3S, or other appropriate designation.

<sup>2</sup> For Emission Points use the following numbering system: 1E, 2E, 3E, or other appropriate designation.

<sup>3</sup> New, modification, removal

<sup>4</sup> For Control Devices use the following numbering system: 1C, 2C, 3C, or other appropriate designation.

**ATTACHMENT J**  
**EMISSION POINTS DATA SUMMARY SHEET**

**Attachment J**  
**EMISSION POINTS DATA SUMMARY SHEET**

**Table 1: Emissions Data**

Emission Point ID No (Must match Emission Units Table & Plot Plan)	Emission Point Type <sup>1</sup>	Emission Unit Vented Through This Point (Must match Emission Units Table & Plot Plan)		Air Pollution Control Device (Must match Emission Units Table & Plot Plan)		Vent Time for Emission Unit (chemical processes only)		All Regulated Pollutants - Chemical Name/CAS <sup>3</sup>  (Speciate VOCs & HAPS)	Maximum Potential Uncontrolled Emissions <sup>4</sup>		Maximum Potential Controlled Emissions <sup>5</sup>		Emission Form or Phase  (At exit conditions, Solid, Liquid or Gas/Vapor <sup>7</sup> )	Est. Method Used <sup>6</sup>	Emission Concentration <sup>7</sup> (ppmv or mg/m <sup>3</sup> )
		ID No.	Source	ID No.	Device Type	Short Term <sup>2</sup>	Max (hr/yr)		lb/hr	ton/yr	lb/hr	ton/yr			
1E-8E, TP2,3,8,12	Varies	TP1-TP12	Dry Transfer Points	Varies	Varies	NA	NA	PM/PM10/PM2.5 HAPS	22.94 0.061	3.90 0.01	0.048 0.0001	0.0095 0.0001	Solid Solid	AP-42	NA
TP13	NA	TP13	Wet Transfer Point	PE+Vac	Partial Enclosure Vacuum Hose	NA	NA	PM/PM10/PM2.5 VOC HAPS	0.0096 0.08 0.04	0.0002 0.01 0.005	0.0029 0.08 0.04	0.00006 0.01 0.005	Solid Vapor Vapor	AP-42	NA
10E	Vertical	HTRS	Natural Gas Building Heaters	NA	NA	NA	NA	CO NO <sub>x</sub> PM/PM10/PM2.5 SO <sub>2</sub> VOC Pb HAPS	0.13 0.15 0.01 0.001 0.01 1.0E <sup>-6</sup> 2.88E <sup>-3</sup>	0.56 0.67 0.05 0.004 0.04 3.0E <sup>-6</sup> 1.26E <sup>-2</sup>	0.13 0.15 0.01 0.001 0.01 1.0E <sup>-6</sup> 2.88E <sup>-3</sup>	0.56 0.67 0.05 0.004 0.04 3.0E <sup>-6</sup> 1.26E <sup>-2</sup>	Gas Gas Solid Gas Gas Solid Gas	AP-42	NA

The EMISSION POINTS DATA SUMMARY SHEET provides a summation of emissions by emission unit. Note that uncaptured process emission unit emissions are not typically considered to be fugitive and must be accounted for on the appropriate EMISSIONS UNIT DATA SHEET and on the EMISSION POINTS DATA SUMMARY SHEET. Please note that total emissions from the source are equal to all vented emissions, all fugitive emissions, plus all other emissions (e.g. uncaptured emissions). Please complete the FUGITIVE EMISSIONS DATA SUMMARY SHEET for fugitive emission activities.

- 1 Please add descriptors such as upward vertical stack, downward vertical stack, horizontal stack, relief vent, rain cap, etc.
- 2 Indicate by "C" if venting is continuous. Otherwise, specify the average short-term venting rate with units, for intermittent venting (i.e., 15 min/hr). Indicate as many rates as needed to clarify frequency of venting (e.g., 5 min/day, 2 days/wk).
- 3 List all regulated air pollutants. Speciate VOCs, including all HAPs. Follow chemical name with Chemical Abstracts Service (CAS) number. LIST Acids, CO, CS<sub>2</sub>, VOCs, H<sub>2</sub>S, Inorganics, Lead, Organics, O<sub>3</sub>, NO, NO<sub>2</sub>, SO<sub>2</sub>, SO<sub>3</sub>, all applicable Greenhouse Gases (including CO<sub>2</sub> and methane), etc. DO NOT LIST H<sub>2</sub>, H<sub>2</sub>O, N<sub>2</sub>, O<sub>2</sub>, and Noble Gases.
- 4 Give maximum potential emission rate with no control equipment operating. If emissions occur for less than 1 hr, then record emissions per batch in minutes (e.g. 5 lb VOC/20 minute batch).
- 5 Give maximum potential emission rate with proposed control equipment operating. If emissions occur for less than 1 hr, then record emissions per batch in minutes (e.g. 5 lb VOC/20 minute batch).
- 6 Indicate method used to determine emission rate as follows: MB = material balance; ST = stack test (give date of test); EE = engineering estimate; O = other (specify).
- 7 Provide for all pollutant emissions. Typically, the units of parts per million by volume (ppmv) are used. If the emission is a mineral acid (sulfuric, nitric, hydrochloric or phosphoric) use units of milligram per dry cubic meter (mg/m<sup>3</sup>) at standard conditions (68 °F and 29.92 inches Hg) (see 45CSR7). If the pollutant is SO<sub>2</sub>, use units of ppmv (See 45CSR10).



**ATTACHMENT K**

**FUGITIVE EMISSIONS DATA SUMMARY SHEET**

## Attachment K

### FUGITIVE EMISSIONS DATA SUMMARY SHEET

The FUGITIVE EMISSIONS SUMMARY SHEET provides a summation of fugitive emissions. Fugitive emissions are those emissions which could not reasonably pass through a stack, chimney, vent or other functionally equivalent opening. Note that uncaptured process emissions are not typically considered to be fugitive, and must be accounted for on the appropriate EMISSIONS UNIT DATA SHEET and on the EMISSION POINTS DATA SUMMARY SHEET.

Please note that total emissions from the source are equal to all vented emissions, all fugitive emissions, plus all other emissions (e.g. uncaptured emissions).

#### APPLICATION FORMS CHECKLIST - FUGITIVE EMISSIONS

1.) Will there be haul road activities?

Yes       No

If YES, then complete the HAUL ROAD EMISSIONS UNIT DATA SHEET.

2.) Will there be Storage Piles?

Yes       No

If YES, complete Table 1 of the NONMETALLIC MINERALS PROCESSING EMISSIONS UNIT DATA SHEET.

3.) Will there be Liquid Loading/Unloading Operations?

Yes       No

If YES, complete the BULK LIQUID TRANSFER OPERATIONS EMISSIONS UNIT DATA SHEET.

4.) Will there be emissions of air pollutants from Wastewater Treatment Evaporation?

Yes       No

If YES, complete the GENERAL EMISSIONS UNIT DATA SHEET.

5.) Will there be Equipment Leaks (e.g. leaks from pumps, compressors, in-line process valves, pressure relief devices, open-ended valves, sampling connections, flanges, agitators, cooling towers, etc.)?

Yes       No

If YES, complete the LEAK SOURCE DATA SHEET section of the CHEMICAL PROCESSES EMISSIONS UNIT DATA SHEET.

6.) Will there be General Clean-up VOC Operations?

Yes       No

If YES, complete the GENERAL EMISSIONS UNIT DATA SHEET.

7.) Will there be any other activities that generate fugitive emissions?

Yes       No

If YES, complete the GENERAL EMISSIONS UNIT DATA SHEET or the most appropriate form.

If you answered "NO" to all of the items above, it is not necessary to complete the following table, "Fugitive Emissions Summary."

FUGITIVE EMISSIONS SUMMARY	All Regulated Pollutants* Chemical Name/CAS <sup>1</sup>	Maximum Potential Uncontrolled Emissions <sup>2</sup>		Maximum Potential Controlled Emissions <sup>3</sup>		Est. Method Used <sup>4</sup>
		lb/hr	ton/yr	lb/hr	ton/yr	
Haul Road/Road Dust Emissions Paved Haul Roads	PM	0.97	0.12	0.97	0.12	AP-42
	PM10	0.19	0.02	0.19	0.02	
	PM2.5	0.01	0.01	0.01	0.01	
Unpaved Haul Roads						
Storage Pile Emissions						
Loading/Unloading Operations						
Wastewater Treatment Evaporation & Operations						
Equipment Leaks						
General Clean-up VOC Emissions						
Other						

<sup>1</sup> List all regulated air pollutants. Speciate VOCs, including all HAPs. Follow chemical name with Chemical Abstracts Service (CAS) number. LIST Acids, CO, CS<sub>2</sub>, VOCs, H<sub>2</sub>S, Inorganics, Lead, Organics, O<sub>3</sub>, NO, NO<sub>2</sub>, SO<sub>2</sub>, SO<sub>3</sub>, etc. DO NOT LIST CO<sub>2</sub>, H<sub>2</sub>, H<sub>2</sub>O, N<sub>2</sub>, O<sub>2</sub>, and Noble Gases.

<sup>2</sup> Give rate with no control equipment operating. If emissions occur for less than 1 hr, then record emissions per batch in minutes (e.g. 5 lb VOC/20 minute batch).

<sup>3</sup> Give rate with proposed control equipment operating. If emissions occur for less than 1 hr, then record emissions per batch in minutes (e.g. 5 lb VOC/20 minute batch).

<sup>4</sup> Indicate method used to determine emission rate as follows: MB = material balance; ST = stack test (give date of test); EE = engineering estimate; O = other (specify).

**ATTACHMENT L**  
**EMISSION UNIT DATA SHEETS**

## Affected Source Sheet

### Source Specific Emissions Data: Solid Materials Sizing, Handling and Storage Facilities

#### Required Information Regarding Dust Control Equipment Measures

1. If water or chemical sprays are to be used on conveyors, transfer points, stockpiles, etc... for dust control, the location of all spray bars or spray systems should be shown on the plot plans and/or line drawings. The following information should be provided for each spray system:
  - a. Design water flow through spray bar
  - b. Type and amount of chemicals used and the mix ratio of chemical to water used at the sprays.
  - c. Methods employed to winterize sprays (e.g., keep sprays from freezing and becoming inoperable during cold weather)
2. A detailed written description should be submitted of dust control measures/programs that will be employed on haul roads and in areas of vehicle activity around material stockpiled. The haulways and areas to be treated should be shown by shading or similar description on the plant plan. The following points should be specifically addressed:
  - a. Equipment (e.g. water trucks, fixed spray bars, wheel and truck underbody washers, etc.) that will be used in this dust control program.
  - b. Frequency of application of water and chemical to roads and stockpile areas during dry periods.
  - c. Amount of chemical suppressants to be used, if applicable, in pounds or gallons per square yard of surface to be treated.
  - d. Type of haulroad or haulway surface(s) that will be maintained (e.g., coarse gravel, reddog, etc...)
  - e. Approximate maximum length of haulroads (miles or feet).
  - f. Maximum daily truck traffic on haulroads (number of trucks).
3. If full or partial enclosures are to be used to minimize dust entrainment, a drawing of each such enclosure should be submitted (for example at truck dump bins, breakers, conveyor transfer points).
4. If particulate control devices such as baghouses or scrubbers are to be used, complete an appropriate Air Pollution Control Device Sheet and furnish a drawing showing details of enclosures and ductwork associated with these control systems.

## AFFECTED SOURCE SHEET

### Source Specific Emissions Data: Solid Materials Sizing, Handling, and Storage Facilities

#### Plot Plan(s) and Line Drawing(s)

- a. Finish the plot plan(s) of the plant area which contains sufficient detail to show the scaled layout of the equipment involved in each materials handling system (e.g., conveyors, transfer points, crushers, screens, bins, stockpiles, truck dump bins, etc.). Show equipment or buildings described in other sections of this application on the plot plan as appropriate. The guidelines for Plot Plans should be followed to the extent possible.
- b. Furnish the line drawing(s) or schematic(s) showing each component or facet of each materials handling system (e.g., conveyors, transfer points, stockpiles, crushers, screens, bins etc.). Show process equipment described in other sections of this application as needed for clarity.
- c. On the line drawing(s) or schematic(s) furnished in accordance with item (b) assign an ID number to each conveyor, transfer point (including truck, barge and rail car loading/unloading etc.), storage structure, stockpile, crusher, and screening unit. If any equipment is shown on the line drawing(s) which was described in other sections of this application, use the ID numbers assigned to the equipment in those other sections and indicate equipment name or type (e.g., rotary dryer, vertical kiln etc.)
- d. To the extent possible, note the numbers assigned for equipment and storage facilities as per item (c) on the Plot Plans(s).
- e. The assigned ID numbers for equipment and transfer points must be used to complete Tables 1, 2, and 3 following.

**Table 1 - Affected Storage Activity**

ID Number	S1-S6	T1	CSH	M1
Affected Source Name	Silos	Transporter	Check Scale Hopper	Dry Mixer
Type Storage <sup>1</sup>	B	B	B	B
Material Stored	Cement/Sand	Cement/Sand	Cement/Sand	Cement/Sand
Typical Moisture Content (%)	2	2	2	2
Avg % of material passing 200 mesh sieve	NA	NA	NA	NA
Maximum Total Yearly Throughput in storage (tons)	5,000	5,000	5,000	5,000
Maximum Quantity of Material in Storage <sup>2</sup> (tons)	1,000 ft <sup>3</sup> Each (~45 tons)	75 ft <sup>3</sup> (~3.5 tons)	100 ft <sup>3</sup> (~4.5 tons)	100 ft <sup>3</sup> (~4.5 tons)
Maximum Stockpile Base Area (acres)				
Maximum Stockpile height (ft)				
Type dust controls during storage <sup>3</sup>	DC	DC	DC	DC
Method of material load-in to bin or stockpile <sup>4</sup>	P	SC	P	FC
Type dust controls during load-in <sup>5</sup>	BH	FE	BH	BH
Method of material load-out to bin or stockpile <sup>4</sup>	SC	P	FC	FC
Type dust controls during load-out <sup>5</sup>	FE	BH	BH	BH

DC- Dust Collector.

BH- Baghouse- used to designate transfer point control.

**Table 1 - Affected Storage Activity**

ID Number	MBH	BG	DS	T2
Affected Source Name	Mixed Batch Hopper	Bagger	Manual Bag Dump Station	Transporter
Type Storage <sup>1</sup>	B	B	B	B
Material Stored	Cement/Sand	Cement/Sand	Cement/Sand	Cement/Sand
Typical Moisture Content (%)	2	2	2	2
Avg % of material passing 200 mesh sieve	NA	NA	NA	NA
Maximum Total Yearly Throughput in storage (tons)	5,000	5,000	5,000	5,000
Maximum Quantity of Material in Storage <sup>2</sup> (tons)	100 ft <sup>3</sup> (~4.5 tons)	NA	20 ft <sup>3</sup> (~1 ton)	20 ft <sup>3</sup> (~1 ton)
Maximum Stockpile Base Area (acres)				
Maximum Stockpile height (ft)				
Type dust controls during storage <sup>3</sup>	DC	DC	DC	FE
Method of material load-in to bin or stockpile <sup>4</sup>	FC	FC	OTH1	FC
Type dust controls during load-in <sup>5</sup>	BH	BH	MD	BH
Method of material load-out to bin or stockpile <sup>4</sup>	FC	FC	FC	P
Type dust controls during load-out <sup>5</sup>	BH	BH	BH	BH

OTH1- Charging Port

**Table 2 – Conveying and Transfer**

ID Number	Type Conveyor or Transfer Point <sup>6</sup>	Material Handled [(Note nominal size of material transferred)] <sup>7</sup>	Material Conveying or Transfer Rate		Type Dust Control Measures <sup>5</sup>	Approximate Material Moisture Content (%)
			Max. TPH	Max. TPY		
<b>Conveying</b>						
SC1	SC	Cement/Sand	10	5,000	FE	2
SC2	SC	Cement/Sand	10	5,000	FE	2
SC3	SC	Cement/Sand	10	5,000	FE	2
SC4	SC	Cement/Sand	10	5,000	FE	2
SC5	SC	Cement/Sand	10	5,000	FE	2
<b>Transfer Points</b>						
TP1	05	Cement/Sand	10	5,000	EB	2
TP2	OTH2	Cement/Sand	10	5,000	FE	2
TP3	OTH3	Cement/Sand	10	5,000	FE	2
TP4	OTH4	Cement/Sand	10	5,000	EB	2
TP5	OTH5	Cement/Sand	10	5,000	EB	2
TP6	OTH5	Cement/Sand	10	5,000	EB	2
TP7	OTH5	Cement/Sand	10	5,000	EB	2
TP8	OTH5	Cement/Sand	10	5,000	EB	2
TP9	OTH7	Add Mixes/Recycle	10	5,000	MD	2
TP10	OTH5	Add Mixes/Recycle	10	5,000	EB	2
TP11	OTH5	Add Mixes/Recycle	10	5,000	EB	2
TP12	OTH1	Micro Adds	10	5,000	MD	2
TP13	OTH1	Add Mixes	550 gal/batch	50,000 gal/yr	PE+Vac	2
OTH1- Charging Port						
OTH2- Silo to screw conveyor/Transporter						
OTH3- Screw conveyor to Transporter						
OTH4- Transporter to Hopper						
OTH5- Hopper/Mixer to Mixer/Hopper/Transporter/Bagger and Bagger to Bag						

**Table 3 - Crushing and Screening Not Applicable**

ID Number						
Type Crusher or Screen <sup>8</sup>						
Material Sized						
Maximum Material Throughput	Tons/hour					
	Tons/year					
Material sized from/to. <sup>9</sup>						
Typical moisture content as crushed or screened (%)						
Type dust control						
Stack Parameters	height (ft)					
	diameter (ft)					
NAP	Volume (ACFM)					
	Temp (°F)					
Maximum Operating Schedule	hour/day					
	day/year					
	hour/year					
Approximate Percentage of Operation from:	Jan-Mar					
	April-June					
	July-Sept					
	Oct-Dec					
Maximum Particulate Emissions	lb/hour					
	Ton/year					

Describe method of determining emissions and dust control efficiencies (if by test on a similar unit provide report, if by emission factor reference emission factors):

1. Type Storage - Code as follows: (Note capacity of each bin, building or enclosure)

- OS - Open Stockpile
- B - Bin or Storage Silo (full enclosure)
- SB - Storage Building (full enclosure)
- E- Enclosure (walls but no top)
- SWF- Stockpiles with wind fences
- OTH- Other - Specify in footnote or attachment

2. Give maximum and average quantity of material in storage at any given time (e.g. silo capacity, stockpile size, etc...)

3. TYPE DUST CONTROLS DURING STORAGE

If storage is by other than by bin or full enclosure Code as follows:

- N - None
- WS- Water Sprays
- C- Spraying with chemical surfactant
- OTH- Other - Specify in footnote or attachment

4. METHOD OF PLACING MATERIAL ONTO STOCKPILE OR INTO BINS OR LOADING OUT FROM STOCKPILES OR BINS - Code as follows:

- C- Clamshell
- TD- Truck Dumping
- FE- Front Endloader
- ST- Stacking Tubes
- MS- Mobile Conveyor - Stacker
- SS- Stationary Conveyor - Stacker
- P- Pneumatic Conveyor - Stacker
- FC- Fixed Height Chute from bins
- TC- Telescoping Chute from bins
- UC- Under-pole or under-bin reclaim conveyor
- RC- Reclaim Conveyor (rake or bucket reclaim conveyor reclaiming from surface of stockpile)
- OTH- Other - Describe in a footnote or attachment

5. TYPE DUST CONTROLS - Code as follows:

- N- None
- WS- Water Sprays
- WSA- Water Sprays with Wetting Agents
- CS- Chemical Dust Suppressant (sprays, etc...)
- FE- Full Enclosures
- PE- Partial Enclosures
- MD- Minimization of material drop height
- EM- Enclosure and evacuation to mechanical collector
- EB- Enclosure and evacuation to baghouse
- ES- Enclosure and evacuation to scrubber
- OTH- Other - describe in footnote or attachment

6. TYPE CONVEYOR OR TRANSFER POINT - Code as follows:

Conveyors

- BC- Belt Conveyor
- VC- Vibrating Conveyor
- SC- Screw Conveyor
- DL- Drag-link conveyor
- BE- Bucket Elevator
- PS- Pneumatic System
- OTH- Other describe in footnote or attachment

Transfer Points

- 01- Conveyor to Conveyor
  - 02- Conveyor to Bucket Elevator
  - 03- Conveyor to Hopper or Bin
  - 04- Bucket Elevator to Hopper or Bin
  - 05- Pneumatic conveyor to bin
  - 06- Truck Dumping onto ground
  - 07- Truck Dumping into hopper
  - 08- Loading trucks through stationary chute
  - 09- Loading trucks through telescoping chute
  - 10- Loading Trucks by endloader
  - 11- Railcar unloading-side or bottom dumping
  - 12- Railcar unloading-rotary unloader
  - 13- Railcar loading /unloading by pneumatic system
  - 14- Railcar loading through stationary source
  - 15- Railcar loading through telescopic chute
  - 16- Railcar loading by front end-loader
  - 17- Railcar loading by railcar
  - 18- Barge loading/unloading by clamshell
  - 19- Barge unloading - bucket ladder unloader
  - 20- Barge unloading - from a fixed-height conveyor or stationary chute
  - 21- Barge loading - variable height conveyor or telescoping chute
  - 22- Other - describe in footnote or attachment
7. If more than one material is handled by the listed conveyor or transfer point list each material and furnish the requested data in the table for each material.
8. Describe type of unit such as hammermill, ball mill, double-deck (DD) screen, double roll (DR) crusher, etc...
9. Describe nominal size reduction, example +2" / -3/8"

**Attachment L**  
**FUGITIVE EMISSIONS FROM UNPAVED HAULROADS NOT APPLICABLE**

*UNPAVED HAULROADS (including all equipment traffic involved in process, haul trucks, endloaders, etc.)*

		PM	PM-10
k =	Particle size multiplier		
s =	Silt content of road surface material (%)		
p =	Number of days per year with precipitation >0.01 in.		

Item Number	Description	Number of Wheels	Mean Vehicle Weight (tons)	Mean Vehicle Speed (mph)	Miles per Trip	Maximum Trips per Hour	Maximum Trips per Year	Control Device ID Number	Control Efficiency (%)
1									
2									
3									
4									
5									

**Source:** AP-42 Fifth Edition – 13.2.2 Unpaved Roads

$$E = k \times 5.9 \times (s \div 12) \times (S \div 30) \times (W \div 3)^{0.7} \times (w \div 4)^{0.5} \times ((365 - p) \div 365) = \text{lb/Vehicle Mile Traveled (VMT)}$$

Where:

		PM	PM-10
k =	Particle size multiplier		
s =	Silt content of road surface material (%)		
S =	Mean vehicle speed (mph)		
W =	Mean vehicle weight (tons)		
w =	Mean number of wheels per vehicle		
p =	Number of days per year with precipitation >0.01 in.		

For lb/hr:  $[\text{lb} \div \text{VMT}] \times [\text{VMT} \div \text{trip}] \times [\text{Trips} \div \text{Hour}] = \text{lb/hr}$

For TPY:  $[\text{lb} \div \text{VMT}] \times [\text{VMT} \div \text{trip}] \times [\text{Trips} \div \text{Hour}] \times [\text{Ton} \div 2000 \text{ lb}] = \text{Tons/year}$

**SUMMARY OF UNPAVED HAULROAD EMISSIONS**

Item No.	PM				PM-10			
	Uncontrolled lb/hr	Controlled TPY						
1								
2								
3								
TOTALS								

## FUGITIVE EMISSIONS FROM PAVED HAULROADS

*INDUSTRIAL PAVED HAULROADS (including all equipment traffic involved in process, haul trucks, endloaders, etc.)*

I =	Industrial augmentation factor (dimensionless)	NA
n =	Number of traffic lanes	NA
s =	Surface material silt content (%)	70
L =	Surface dust loading (lb/mile)	NA

Item Number	Description	Mean Vehicle Weight (tons)	Miles per Trip	Maximum Trips per Hour	Maximum Trips per Year	Control Device ID Number	Control Efficiency (%)
1	Delivery/ Product Trucks	24.81	0.1	2	636	N	0
2							
3							
4							
5							
6							
7							
8							

**Source:** AP-42 Fifth Edition – 11.2.6 Industrial Paved Roads

$$E = 0.077 \times I \times (4 \div n) \times (s \div 10) \times (L \div 1000) \times (W \div 3)^{0.7} =$$

Where:

I =	Industrial augmentation factor (dimensionless)	NA
n =	Number of traffic lanes	NA
s =	Surface material silt content (%)	70
L =	Surface dust loading (lb/mile)	NA
W =	Average vehicle weight (tons)	Varies

For lb/hr:  $[lb \div VMT] \times [VMT \div trip] \times [Trips \div Hour] =$  lb/hr

For TPY:  $[lb \div VMT] \times [VMT \div trip] \times [Trips \div Hour] \times [Ton \div 2000 lb] =$  Tons/year

### SUMMARY OF PAVED HAULROAD EMISSIONS PM/PM10/PM2.5

Item No.	Uncontrolled		Controlled	
	lb/hr	TPY	lb/hr	TPY
1	0.97/0.19/0.01	0.12/0.02/0.01	0.97/0.19/0.01	0.12/0.02/0.01
2				
3				
4				
5				
6				
<b>TOTALS</b>	0.97/0.19/0.01	0.12/0.02/0.01	0.97/0.19/0.01	0.12/0.02/0.01

**Attachment L  
EMISSIONS UNIT DATA SHEET  
GENERAL**

To be used for affected sources other than asphalt plants, foundries, incinerators, indirect heat exchangers, and quarries.

Identification Number (as assigned on *Equipment List Form*): M2

1.	Name or type and model of proposed affected source:  Wet Mixer
2.	On a separate sheet(s), furnish a sketch(es) of this affected source. If a modification is to be made to this source, clearly indicated the change(s). Provide a narrative description of all features of the affected source which may affect the production of air pollutants.
3.	Name(s) and maximum amount of proposed process material(s) charged per hour:  Up to 550 gallons of ingredients. See Attachment H for wet ingredients.
4.	Name(s) and maximum amount of proposed material(s) produced per hour:  Maximum of 550 gallons of mixed materials. See Attachment H for current products.
5.	Give chemical reactions, if applicable, that will be involved in the generation of air pollutants:  M2 produces a mixture- there are no chemical reaction pollutants created.

\* The identification number which appears here must correspond to the air pollution control device identification number appearing on the *List Form*.

6. Combustion Data (if applicable): NOT APPLICABLE			
(a) Type and amount in appropriate units of fuel(s) to be burned:			
(b) Chemical analysis of proposed fuel(s), excluding coal, including maximum percent sulfur and ash:			
(c) Theoretical combustion air requirement (ACF/unit of fuel): NA			
@		°F and	
		psia.	
(d) Percent excess air:			
(e) Type and BTU/hr of burners and all other firing equipment planned to be used:			
(f) If coal is proposed as a source of fuel, identify supplier and seams and give sizing of the coal as it will be fired:			
NA			
(g) Proposed maximum design heat input:			× 10 <sup>6</sup> BTU/hr.
7. Projected operating schedule:			
Hours/Day	24	Days/Week	7
		Weeks/Year	52

8. Projected amount of pollutants that would be emitted from this affected source if no control devices were used:

@	°F and	psia
a. NO <sub>x</sub>	lb/hr	grains/ACF
b. SO <sub>2</sub>	lb/hr	grains/ACF
c. CO	lb/hr	grains/ACF
d. PM <sub>10</sub>	0.0096 lb/hr	grains/ACF
e. Hydrocarbons	lb/hr	grains/ACF
f. VOCs	0.08 lb/hr	grains/ACF
g. Pb	lb/hr	grains/ACF
h. Specify other(s)		
HAPs	0.04 lb/hr	grains/ACF
	lb/hr	grains/ACF
	lb/hr	grains/ACF
	lb/hr	grains/ACF

NOTE: (1) An Air Pollution Control Device Sheet must be completed for any air pollution device(s) used to control emissions from this affected source.

(2) Complete the Emission Points Data Sheet.

9. Proposed Monitoring, Recordkeeping, Reporting, and Testing  
 Please propose monitoring, recordkeeping, and reporting in order to demonstrate compliance with the proposed operating parameters. Please propose testing in order to demonstrate compliance with the proposed emissions limits.

**MONITORING**

As required in existing permit.

**RECORDKEEPING**

As required in existing permit.

**REPORTING**

As required in existing permit.

**TESTING**

As required in existing permit.

**MONITORING.** PLEASE LIST AND DESCRIBE THE PROCESS PARAMETERS AND RANGES THAT ARE PROPOSED TO BE MONITORED IN ORDER TO DEMONSTRATE COMPLIANCE WITH THE OPERATION OF THIS PROCESS EQUIPMENT OPERATION/AIR POLLUTION CONTROL DEVICE.

**RECORDKEEPING.** PLEASE DESCRIBE THE PROPOSED RECORDKEEPING THAT WILL ACCOMPANY THE MONITORING.

**REPORTING.** PLEASE DESCRIBE THE PROPOSED FREQUENCY OF REPORTING OF THE RECORDKEEPING.

**TESTING.** PLEASE DESCRIBE ANY PROPOSED EMISSIONS TESTING FOR THIS PROCESS EQUIPMENT/AIR POLLUTION CONTROL DEVICE.

10. Describe all operating ranges and maintenance procedures required by Manufacturer to maintain warranty

NA

## EMISSIONS UNIT DATA SHEET GENERAL

To be used for affected sources other than asphalt plants, foundries, incinerators, indirect heat exchangers, and quarries.

Identification Number (as assigned on *Equipment List Form*): HTRS (10E)

1. Name or type and model of proposed affected source:

Natural Gas Building Heaters (multiple heaters). Ten (10) tube heaters (HL3 Series @ 150,000 Btu/hr) and one (1) Reznor (Model UDAP60 @ 60,000 But/hr) heater.

2. On a separate sheet(s), furnish a sketch(es) of this affected source. If a modification is to be made to this source, clearly indicated the change(s). Provide a narrative description of all features of the affected source which may affect the production of air pollutants.

3. Name(s) and maximum amount of proposed process material(s) charged per hour:

This emission unit is for the natural gas fired building heaters with a total heat input of 1.56 MM Btu/hr.

4. Name(s) and maximum amount of proposed material(s) produced per hour:

None

5. Give chemical reactions, if applicable, that will be involved in the generation of air pollutants:

NA

\* The identification number which appears here must correspond to the air pollution control device identification number appearing on the *List Form*.

6. Combustion Data (if applicable):

(a) Type and amount in appropriate units of fuel(s) to be burned:

Natural gas at a total of 1.56 MM Btu/hr.

(b) Chemical analysis of proposed fuel(s), excluding coal, including maximum percent sulfur and ash:

Pipeline Quality Natural Gas

(c) Theoretical combustion air requirement (ACF/unit of fuel): NA

@ °F and psia.

(d) Percent excess air: NA

(e) Type and BTU/hr of burners and all other firing equipment planned to be used:

Various

(f) If coal is proposed as a source of fuel, identify supplier and seams and give sizing of the coal as it will be fired:

NA

(g) Proposed maximum design heat input: 1.56 (total) × 10<sup>6</sup> BTU/hr.

7. Projected operating schedule:

Hours/Day	24	Days/Week	7	Weeks/Year	52
-----------	----	-----------	---	------------	----

8. Projected amount of pollutants that would be emitted from this affected source if no control devices were used: Total Combined Heaters			
@	°F and		psia
a. NO <sub>x</sub>	0.15	lb/hr	grains/ACF
b. SO <sub>2</sub>	0.001	lb/hr	grains/ACF
c. CO	0.13	lb/hr	grains/ACF
d. PM <sub>10</sub>	0.01	lb/hr	grains/ACF
e. Hydrocarbons		lb/hr	grains/ACF
f. VOCs	0.01	lb/hr	grains/ACF
g. Pb	1.0E <sup>-6</sup>	lb/hr	grains/ACF
h. Specify other(s)			
HAPs*	2.88E <sup>-3</sup>	lb/hr	grains/ACF
*Speciated HAPs shown in Attachment N.		lb/hr	grains/ACF
		lb/hr	grains/ACF
		lb/hr	grains/ACF

- NOTE: (1) An Air Pollution Control Device Sheet must be completed for any air pollution device(s) used to control emissions from this affected source.  
(2) Complete the Emission Points Data Sheet.

9. Proposed Monitoring, Recordkeeping, Reporting, and Testing  
 Please propose monitoring, recordkeeping, and reporting in order to demonstrate compliance with the proposed operating parameters. Please propose testing in order to demonstrate compliance with the proposed emissions limits.

**MONITORING**

None

**RECORDKEEPING**

None

**REPORTING**

None

**TESTING**

None

**MONITORING.** PLEASE LIST AND DESCRIBE THE PROCESS PARAMETERS AND RANGES THAT ARE PROPOSED TO BE MONITORED IN ORDER TO DEMONSTRATE COMPLIANCE WITH THE OPERATION OF THIS PROCESS EQUIPMENT OPERATION/AIR POLLUTION CONTROL DEVICE.

**RECORDKEEPING.** PLEASE DESCRIBE THE PROPOSED RECORDKEEPING THAT WILL ACCOMPANY THE MONITORING.

**REPORTING.** PLEASE DESCRIBE THE PROPOSED FREQUENCY OF REPORTING OF THE RECORDKEEPING.

**TESTING.** PLEASE DESCRIBE ANY PROPOSED EMISSIONS TESTING FOR THIS PROCESS EQUIPMENT/AIR POLLUTION CONTROL DEVICE.

10. Describe all operating ranges and maintenance procedures required by Manufacturer to maintain warranty

None

**ATTACHMENT M**

**AIR POLLUTION CONTROL DEVICE SHEETS**



22. Type of Pollutant(s) to be collected (if particulate give specific type):  
 PM/PM10/PM2.5

23. Is there any SO<sub>3</sub> in the emission stream?  No  Yes SO<sub>3</sub> content: \_\_\_\_\_ ppmv

24. Emission rate of pollutant (specify) into and out of collector at maximum design operating conditions:

Pollutant	IN		OUT	
	lb/hr	grains/acf	lb/hr	grains/acf
PM/ PM10/PM2.5	14.60		0.0146	

25. Complete the table:

Particulate Size Range (microns)	Particle Size Distribution at Inlet to Collector	Fraction Efficiency of Collector
	Weight % for Size Range	Weight % for Size Range
0 – 2		99-99.75
2 – 4		99.75+
4 – 6		
6 – 8		
8 – 10		
10 – 12		
12 – 16		
16 – 20		
20 – 30		
30 – 40		
40 – 50		
50 – 60		
60 – 70		
70 – 80		
80 – 90		
90 – 100		
>100		

26. How is filter monitored for indications of deterioration (e.g., broken bags)?

- Continuous Opacity
- Pressure Drop
- Alarms-Audible to Process Operator
- Visual opacity readings, Frequency:
- Other, specify:

27. Describe any recording device and frequency of log entries:

NA

28. Describe any filter seeding being performed:

NA

29. Describe any air pollution control device inlet and outlet gas conditioning processes (e.g., gas cooling, gas reheating, gas humidification):

NA

30. Describe the collection material disposal system:

Material is collected in drums and recycled.

31. Have you included **Baghouse Control Device** in the Emissions Points Data Summary Sheet?

**32. Proposed Monitoring, Recordkeeping, Reporting, and Testing**

Please propose monitoring, recordkeeping, and reporting in order to demonstrate compliance with the proposed operating parameters. Please propose testing in order to demonstrate compliance with the proposed emissions limits.

MONITORING: As required in existing permit.

RECORDKEEPING: As required in existing permit.

REPORTING: As required in existing permit.

TESTING: As required in existing permit.

MONITORING: Please list and describe the process parameters and ranges that are proposed to be monitored in order to demonstrate compliance with the operation of this process equipment or air control device.

RECORDKEEPING: Please describe the proposed recordkeeping that will accompany the monitoring.

REPORTING: Please describe any proposed emissions testing for this process equipment on air pollution control device.

TESTING: Please describe any proposed emissions testing for this process equipment on air pollution control device.

33. Manufacturer's Guaranteed Capture Efficiency for each air pollutant.

NA

34. Manufacturer's Guaranteed Control Efficiency for each air pollutant.

99%

35. Describe all operating ranges and maintenance procedures required by Manufacturer to maintain warranty.

NA



22. Type of Pollutant(s) to be collected (if particulate give specific type):  
PM/PM10/PM2.5

23. Is there any SO<sub>3</sub> in the emission stream?  No  Yes SO<sub>3</sub> content: \_\_\_\_\_ ppmv

24. Emission rate of pollutant (specify) into and out of collector at maximum design operating conditions:

Pollutant	IN		OUT	
	lb/hr	grains/acf	lb/hr	grains/acf
PM/ PM10/PM2.5	8.23		0.01	

25. Complete the table:

Particulate Size Range (microns)	Particle Size Distribution at Inlet to Collector	Fraction Efficiency of Collector
	Weight % for Size Range	Weight % for Size Range
0 – 2		99-99.75
2 – 4		99.75+
4 – 6		
6 – 8		
8 – 10		
10 – 12		
12 – 16		
16 – 20		
20 – 30		
30 – 40		
40 – 50		
50 – 60		
60 – 70		
70 – 80		
80 – 90		
90 – 100		
>100		

26. How is filter monitored for indications of deterioration (e.g., broken bags)?

- Continuous Opacity
- Pressure Drop
- Alarms-Audible to Process Operator
- Visual opacity readings, Frequency:
- Other, specify:

27. Describe any recording device and frequency of log entries:

NA

28. Describe any filter seeding being performed:

NA

29. Describe any air pollution control device inlet and outlet gas conditioning processes (e.g., gas cooling, gas reheating, gas humidification):

NA

30. Describe the collection material disposal system:

Material is collected in drums and recycled.

31. Have you included **Baghouse Control Device** in the Emissions Points Data Summary Sheet?

**32. Proposed Monitoring, Recordkeeping, Reporting, and Testing**

Please propose monitoring, recordkeeping, and reporting in order to demonstrate compliance with the proposed operating parameters. Please propose testing in order to demonstrate compliance with the proposed emissions limits.

MONITORING: As required in existing permit.

RECORDKEEPING: As required in existing permit.

REPORTING: As required in existing permit.

TESTING: As required in existing permit.

MONITORING: Please list and describe the process parameters and ranges that are proposed to be monitored in order to demonstrate compliance with the operation of this process equipment or air control device.

RECORDKEEPING: Please describe the proposed recordkeeping that will accompany the monitoring.

REPORTING: Please describe any proposed emissions testing for this process equipment on air pollution control device.

TESTING: Please describe any proposed emissions testing for this process equipment on air pollution control device.

33. Manufacturer's Guaranteed Capture Efficiency for each air pollutant.  
NA

34. Manufacturer's Guaranteed Control Efficiency for each air pollutant.  
99%

35. Describe all operating ranges and maintenance procedures required by Manufacturer to maintain warranty.  
NA

**Attachment M**  
**Air Pollution Control Device Sheet**  
 (BAGHOUSE)

Control Device ID No. (must match Emission Units Table): DC8 (8E)

**Equipment Information and Filter Characteristics**

1. Manufacturer: Whirl-Air-Flow Model No. Integral to Manual Bag Dump Station BD4236F90		2. Total number of compartments: 1	
		3. Number of compartment online for normal operation: 1	
4. Provide diagram(s) of unit describing capture system with duct arrangement and size of duct, air volume, capacity, horsepower of movers. If applicable, state hood face velocity and hood collection efficiency.			
5. Baghouse Configuration: <input type="checkbox"/> Open Pressure <input type="checkbox"/> Closed Pressure <input checked="" type="checkbox"/> Closed Suction (check one) <input type="checkbox"/> Electrostatically Enhanced Fabric <input type="checkbox"/> Other, Specify			
6. Filter Fabric Bag Material: <input type="checkbox"/> Nomex nylon <input type="checkbox"/> Wool <input checked="" type="checkbox"/> Polyester <input type="checkbox"/> Polypropylene <input type="checkbox"/> Acrylics <input type="checkbox"/> Ceramics <input type="checkbox"/> Fiber Glass <input type="checkbox"/> Cotton Weight      oz./sq.yd <input type="checkbox"/> Teflon Thickness      in <input type="checkbox"/> Others, specify Ultra-Web		7. Bag Dimension: Diameter NA in. Length NA ft.	
		8. Total cloth area: 90 ft <sup>2</sup>	
		9. Number of bags: NA	
		10. Operating air to cloth ratio: NA ft/min	
11. Baghouse Operation: <input checked="" type="checkbox"/> Continuous <input type="checkbox"/> Automatic <input type="checkbox"/> Intermittent			
12. Method used to clean bags: <input type="checkbox"/> Mechanical Shaker <input type="checkbox"/> Sonic Cleaning <input type="checkbox"/> Reverse Air Jet <input type="checkbox"/> Pneumatic Shaker <input type="checkbox"/> Reverse Air Flow <input type="checkbox"/> Other: <input type="checkbox"/> Bag Collapse <input checked="" type="checkbox"/> Pulse Jet <input type="checkbox"/> Manual Cleaning <input type="checkbox"/> Reverse Jet			
13. Cleaning initiated by: <input checked="" type="checkbox"/> Timer <input type="checkbox"/> Frequency if timer actuated <input type="checkbox"/> Expected pressure drop range      in. of water <input type="checkbox"/> Other			
14. Operation Hours: Max. per day: 24 Max. per yr: 8,760		15. Collection efficiency: Rating: 99 % Guaranteed minimum: %	

**Gas Stream Characteristics**

16. Gas flow rate into the collector: ACFM at °F and PSIA ACFM: Design: PSIA      Maximum: PSIA      Average Expected: PSIA	
17. Water Vapor Content of Effluent Stream: lb. Water/lb. Dry Air	
18. Gas Stream Temperature: ambient °F	19. Fan Requirements: 3 hp OR ft <sup>3</sup> /min
20. Stabilized static pressure loss across baghouse. Pressure Drop: High NA in. H <sub>2</sub> O Low NA in. H <sub>2</sub> O	
21. Particulate Loading: Inlet: grain/scf      Outlet: grain/scf	

22. Type of Pollutant(s) to be collected (if particulate give specific type):  
PM/PM10/PM2.5

23. Is there any SO<sub>3</sub> in the emission stream?  No  Yes SO<sub>3</sub> content: \_\_\_\_\_ ppmv

24. Emission rate of pollutant (specify) into and out of collector at maximum design operating conditions:

Pollutant	IN		OUT	
	lb/hr	grains/acf	lb/hr	grains/acf
PM/ PM10/PM2.5	0.0048		0.0001	

25. Complete the table:

Particulate Size Range (microns)	Particle Size Distribution at Inlet to Collector	Fraction Efficiency of Collector
	Weight % for Size Range	Weight % for Size Range
0 – 2		99
2 – 4		
4 – 6		
6 – 8		
8 – 10		
10 – 12		
12 – 16		
16 – 20		
20 – 30		
30 – 40		
40 – 50		
50 – 60		
60 – 70		
70 – 80		
80 – 90		
90 – 100		
>100		

26. How is filter monitored for indications of deterioration (e.g., broken bags)?

- Continuous Opacity
- Pressure Drop
- Alarms-Audible to Process Operator
- Visual opacity readings, Frequency:
- Other, specify:

27. Describe any recording device and frequency of log entries:

NA

28. Describe any filter seeding being performed:

NA

29. Describe any air pollution control device inlet and outlet gas conditioning processes (e.g., gas cooling, gas reheating, gas humidification):

NA

30. Describe the collection material disposal system:

Material is collected in drums and recycled.

31. Have you included **Baghouse Control Device** in the Emissions Points Data Summary Sheet?

**32. Proposed Monitoring, Recordkeeping, Reporting, and Testing**

Please propose monitoring, recordkeeping, and reporting in order to demonstrate compliance with the proposed operating parameters. Please propose testing in order to demonstrate compliance with the proposed emissions limits.

MONITORING: As required in existing permit.

RECORDKEEPING: As required in existing permit.

REPORTING: As required in existing permit.

TESTING: As required in existing permit.

MONITORING: Please list and describe the process parameters and ranges that are proposed to be monitored in order to demonstrate compliance with the operation of this process equipment or air control device.

RECORDKEEPING: Please describe the proposed recordkeeping that will accompany the monitoring.

REPORTING: Please describe any proposed emissions testing for this process equipment on air pollution control device.

TESTING: Please describe any proposed emissions testing for this process equipment on air pollution control device.

33. Manufacturer's Guaranteed Capture Efficiency for each air pollutant.  
NA

34. Manufacturer's Guaranteed Control Efficiency for each air pollutant.  
99%

35. Describe all operating ranges and maintenance procedures required by Manufacturer to maintain warranty.  
NA

# Dust Collectors



*Pulse-Jet  
Dust Collectors for  
Pneumatic Conveying  
Applications*



**WHIRL-AIR-FLOW**

---

# The Standard of the Pneumatic Conveying Industry in Dust Collectors

WhirlAir manufactures a comprehensive line of pulse jet dust collection systems specifically designed for pneumatic conveying applications. Field proven in real-world conditions, WhirlAir dust collectors provide reliable, leak resistant performance in a broad range of conditions and workload environments.

The WhirlAir line of pulse-jet dust collectors includes bin-vent, high pressure/vacuum and bag house models, all designed for ease-of-use and trouble free maintenance. WhirlAir construction standards are among the most rigid in the industry, and in this regard, you will find WhirlAir pulse-jet dust

collectors to be constructed for heavy duty service. High vacuum and ASME coded filters are designed and built for ratings up to 30" Hg and 100 PSIG.

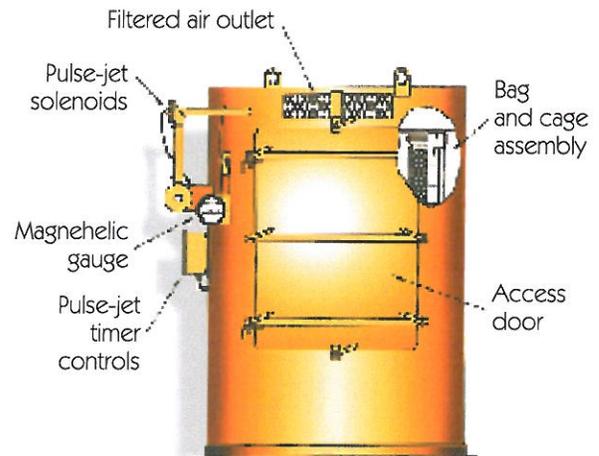
All WhirlAir dust collection systems are shipped completely assembled with bags and cages installed. The units are pre-piped and pre-wired and include bottom mounting ring, hardware and bag safety grating. All models have large flush-mounted access doors and standard "bird screens" at discharge. Design options include top bag removal, cartridges, explosion proof designs and explosion venting, access ladders and high temperature construction.



WhirlAir dust collectors feature a unique bag clamping system. Dust leakage is virtually eliminated utilizing a special gasket design, used to clamp the bag to the cup.



WhirlAir manufactures a broad range of dust collectors, including low-profile, filter/receiver combination units.



WhirlAir dust collectors are full-featured and designed to allow easy maintenance access.

---

# Bin Vent Dust Collectors Standard Rate for Full Vacuum and High Pressure Service

WhirlAir bin vent dust collectors provide high efficiency, ease-of-use features:

- Minimum 10 gauge mild or stainless steel construction.
- Continuous welded design.
- Bags with cages or cartridges installed at the factory.
- Large, flush-mounted access door.
- NEMA 4 pre-wired electrical with solid state timing board.
- Factory piped air controls.
- Bottom mounting ring and internal safety grating supplied standard.
- Lifting lugs and clean air vents included as standard equipment.
- Available with factory mounted exhauster or blower.
- Available with top bag removal or cartridges.
- Pressure-rated at 14.7 PSIG and 28" Hg vacuum service in 30" and 42" diameter models.
- Pressure-rated at 14.7 PSIG and 18" Hg vacuum service in 56" and 80" diameter models.



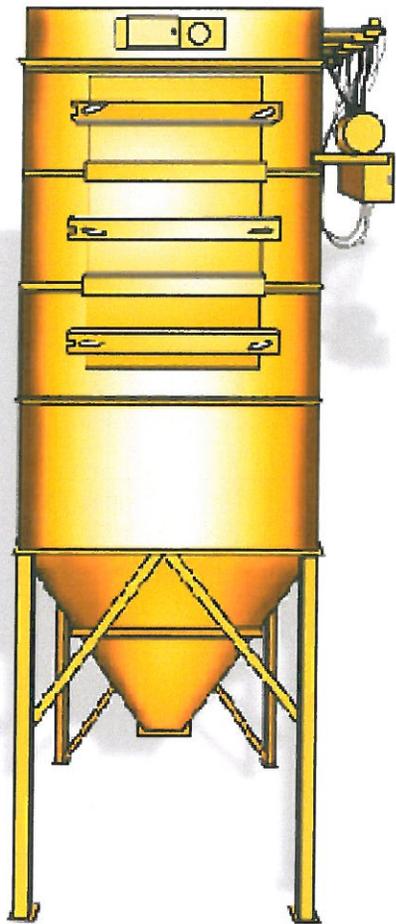
WhirlAir Stainless Steel  
High Vacuum Design (with hopper)

Model	35-30	55-30	75-30	65-42	130-42	195-42	260-42	175-56	230-56	345-56	465-56	430-80	650-80	865-80
Overall Height Inches	31 (787)	43 (1092)	55 (1397)	36.125 (918)	60.125 (1537)	84.125 (2137)	108.125 (2746)	50.125 (1273)	62.125 (1578)	86.125 (2188)	110.125 (2797)	62.125 (1578)	86.125 (2188)	110.125 (2797)
Dia. Inches	30 (762)	30 (762)	30 (762)	42 (1067)	42 (1067)	42 (1067)	42 (1067)	56 (1422)	56 (1422)	56 (1422)	56 (1422)	80 (2032)	80 (2032)	80 (2032)
Bag Length Inches	24 (610)	36 (914)	48 (1292)	24 (610)	48 (1292)	72 (1829)	96 (2438)	36 (914)	48 (1292)	72 (1829)	96 (2438)	48 (1292)	72 (1829)	96 (2438)
Filter Area Sq. Ft.	37 (3.4)	56 (5.2)	75 (7.0)	65 (6.0)	130 (12)	195 (18.1)	260 (24.1)	175 (16.3)	230 (21.3)	345 (32.1)	465 (43.2)	430 (40.0)	650 (60.14)	865 (80.4)
Bag Quantity	12	12	12	21	21	21	21	37	37	37	37	69	69	69
Weight lbs.	350 (159)	400 (181)	450 (204)	630 (286)	790 (358)	950 (431)	1210 (549)	1195 (542)	1300 (590)	1515 (687)	1730 (785)	3140 (1424)	3550 (1610)	3730 (1692)

# Baghouse Dust Collectors For Large Air Volume Low Pressure Applications

WhirlAir baghouse dust collection system features:

- Minimum 7 gauge mild or stainless steel construction.
- Continuous welded design.
- Bags with factory installed cages.
- Large, flush-mounted access door.
- NEMA 4 pre-wired electrical with solid state timing board.
- Factory piped air controls.
- Bottom cone hopper and internal safety grating supplied standard.
- Lifting lugs and clean air vents with bird screen supplied as standard equipment.
- Available with factory mounted exhauster or blower.
- Available with top bag removal or cartridges.
- Rated at 20" H<sub>2</sub>O (WC) both vacuum and pressure.



Model	60BH-565	60BH-750	80BH-750	80BH-1000	100BH-940	100BH-1250
Overall Height - Inches	17'2" (5232)	19'2" (5842)	17'2" (5232)	19'2" (5842)	17'2" (5232)	19'2" (5842)
Width/Length	4'0"/6'4" (1219)/(1930)	4'0"/6'4" (1219)/(1930)	5'2"/6'4" (1575)/(1930)	5'2"/6'4" (1575)/(1930)	6'4"/6'4" (1930)/(1930)	6'4"/6'4" (1930)/(1930)
Bag Length - Inches	72" (1829)	96" (2438)	72" (1829)	96" (2438)	72" (1829)	96" (2438)
Cloth Area - Sq. Ft.	565 (52.5)	750 (69.7)	750 (69.7)	1000 (92.9)	940 (87.4)	1250 (116.2)
Bag Quantity	60	60	80	80	100	100

Collector height shown for 60 degree hopper in chart above. Dimensions shown in parentheses throughout this bulletin represent mm and m<sup>2</sup>.



## Whirl-Air-Flow Corporation

1515 Central Avenue NE, Post Office Box 18190  
Minneapolis, MN 55418-0190

612/782-2200 • 800/373-3461 • 612/781-3466 FAX • www.whirlair.com



**AMERICAN  
PROCESS  
SYSTEMS**

July 31, 2014

## **Statement of Dust Collector Efficiency**

Whirl-Air-Flow model 195-42 Dust Collector has 195 effective square feet of cloth area and uses 21 6" diameter x 16 oz. Polyester bags x 72" long. Bag cleaning is accomplished by a continuous automatic cycling pulse jet at 90 PSIG.

The dust collector efficiency is based on a flow of airborne particles of uniform size, which is 1 micron. Whirl-Air-Flow dust collector is 99.0-99.75 efficient in removing uniform flows of 1.0 micron particulate and nearly 100% effect at 2.0 microns.

Typical air to cloth ratios that this collector operates in is from 3 to 1. The collector housing and flush access door is stress designed for 15PSI pressure and 15" Hg vacuum service.

**American Process Systems  
Member Eirich Group**

- Design pressure – 10 PSIG
- Material construction -- 7 ga carbon steel housing
- Tubesheet – 7 ga
- Timer/solenoid enclosure – NEMA 4
- Cages – nickel plated carbon steel
- Primed and finish painted
- **Bin vent totally factory assembled with bags and cages installed**

#### Manual hand adds equipment

- 25 1 Whirl-Air-Flow Model BD4236F90 Manual Bag Emptier Station, complete with the following:
- Carbon steel construction
  - Self-contained 90 sq. ft. dust collector with bags and cages installed. Pulse jet design for continuous bag cleaning.
  - 16 oz. Polyester bags, Teflon coated for superior release and filtration, with cages installed prior to shipment
  - 42" wide by 36" deep by 82" tall
  - External mounted 900 CFM exhaust fan with 3 HP TEFC motor
  - Air flow is down through the grating removing dust from the operator.
  - 20 cu.ft. bottom product hopper with 60-degree slope angle, outlet flange.
  - Hopper to be furnished with 12" wide removable work shelf, four (4) support legs, removable grating
  - Hopper equipped with pneumatic vibrator mounting pad and vibrator to further aid material discharge, if needed.
  - Exterior to be blasted, primed and finish enamel painted.
  - Unit to be shipped pre-wired and pre-piped with bags and cages installed to reduce field installation costs.
  - Units requires, 3-phase power for the exhauster and 80 psig air supply.
- 26 1 Structural support steel over transporter to provide a deck area designed to support three (3) pallets of product and manual bag dump. Access stairs, railings, kick plates and open grating floor and empty bag chute to customer provided dumpster.
- 27 1 Whirl-Air-Flow Model 10BF200 transporter, carbon steel welded construction, 20.0 cu.ft. capacity, including
- 10" inlet butterfly valve air-operated
  - 3" vent butterfly valve air-operated
  - Tangential nozzles located on the cone of the transporter to further improve product discharge from the transporter

**ATTACHMENT N**  
**SUPPORTING EMISSIONS CALCULATIONS**

By: ADM  
Date: 06/17/2015

Checked By: JJD  
Date: 06/19/2015

**Proposed Change in PTE**

	Uncontrolled		Controlled	
	lb/hr	tpy	lb/hr	tpy
PM	0.01	0.05	0.01	0.05
PM10	0.01	0.05	0.01	0.05
PM2.5	0.01	0.05	0.01	0.05
VOC	0.01	0.04	0.01	0.04
NO <sub>x</sub>	0.15	0.67	0.15	0.67
CO	0.13	0.56	0.13	0.56
SO <sub>2</sub>	0.001	0.004	0.001	0.004
Lead	0.000001	0.000003	0.000001	0.000003
Cadmium	0	0	0	0
Arsenic	0	0	0	0
Nickel	0	0	0	0
Mercury	0	0	0	0
Vinyl Acetate	0	0	0	0
Formaldehyde	0	0	0	0
Ethylene Oxide	0	0	0	0
Propylene Oxide	0	0	0	0
1,4-Dioxane	0	0	0	0
Acetaldehyde	0	0	0	0
Ethylene Glycol	0	0	0	0
Total HAPs	0.00288	0.0126	0.00288	0.0126

By: ADM  
Date: 06/17/2015

Checked By: JJD  
Date: 06/19/2015

**Existing Emissions**

**Dry Process**

	Uncontrolled		Controlled	
	lb/hr	tpy	lb/hr	tpy
PM/PM10/PM2.5	22.94	3.90	0.0479	0.0095
Lead	0.0023	0.0004	0.000005	0.000001
Cadmium	0.0001	0.0000	0.0000002	0.00000005
Arsenic	0.0023	0.0004	0.000005	0.000001
Nickel	0.0092	0.0016	0.00002	0.000004
Mercury	0.00002	0.000004	0.00000005	0.00000001
Vinyl Acetate	0.0023	0.0004	0.000005	0.000001
Formaldehyde	0.0447	0.0076	0.00009	0.00002

**Wet Process**

	Uncontrolled		Controlled	
	lb/hr	tpy	lb/hr	tpy
PM/PM10/PM2.5	0.0096	0.0002	0.00288	0.00006
VOC	0.08	0.01	0.08	0.01
Ethylene Oxide	0.0001	0.000002	0.0001	0.000002
Propylene Oxide	0.0001	0.000002	0.0001	0.000002
1,4-Dioxane	0.0001	0.000002	0.0001	0.000002
Acetaldehyde	0.0001	0.000002	0.0001	0.000002
Ethylene Glycol	0.04	0.005	0.04	0.005

**Vehicular Traffic**

	Uncontrolled		Controlled	
	lb/hr	tpy	lb/hr	tpy
PM	0.97	0.12	0.97	0.12
PM10	0.19	0.02	0.19	0.02
PM2.5	0.01	0.01	0.01	0.01

**Total Facility PTE**

	Uncontrolled		Controlled	
	lb/hr	tpy	lb/hr	tpy
PM	23.92	4.02	1.02	0.13
PM10	23.14	3.92	0.24	0.03
PM2.5	22.96	3.91	0.06	0.02
VOC	0.08	0.01	0.08	0.01
Lead	0.0023	0.0004	0.000005	0.000001
Cadmium	0.0001	0.0000	0.0000002	0.00000005
Arsenic	0.0023	0.0004	0.000005	0.000001
Nickel	0.0092	0.0016	0.000019	0.000004
Mercury	0.00002	0.000004	0.00000005	0.00000001
Vinyl Acetate	0.0023	0.0004	0.000005	0.000001
Formaldehyde	0.0447	0.0076	0.00009	0.00002
Ethylene Oxide	0.0001	0.000002	0.0001	0.000002
Propylene Oxide	0.0001	0.000002	0.0001	0.000002
1,4-Dioxane	0.0001	0.000002	0.0001	0.000002
Acetaldehyde	0.0001	0.000002	0.0001	0.000002
Ethylene Glycol	0.04	0.005	0.04	0.005
Total HAPs	0.1013	0.0154	0.0405	0.0050

By: ADM  
Date: 06/17/2015

Checked By: JJD  
Date: 06/19/2015

**Proposed Emissions**

**Dry Process**

	Uncontrolled		Controlled	
	lb/hr	tpy	lb/hr	tpy
PM/PM10/PM2.5	22.94	3.90	0.0479	0.0095
Lead	0.0023	0.0004	0.000005	0.000001
Cadmium	0.0001	0.0000	0.0000002	0.00000005
Arsenic	0.0023	0.0004	0.000005	0.000001
Nickel	0.0092	0.0016	0.00002	0.000004
Mercury	0.00002	0.000004	0.00000005	0.00000001
Vinyl Acetate	0.0023	0.0004	0.000005	0.000001
Formaldehyde	0.0447	0.0076	0.00009	0.00002

**Wet Process**

	Uncontrolled		Controlled	
	lb/hr	tpy	lb/hr	tpy
PM/PM10/PM2.5	0.0096	0.0002	0.00288	0.00006
VOC	0.08	0.01	0.08	0.01
Ethylene Oxide	0.0001	0.000002	0.0001	0.000002
Propylene Oxide	0.0001	0.000002	0.0001	0.000002
1,4-Dioxane	0.0001	0.000002	0.0001	0.000002
Acetaldehyde	0.0001	0.000002	0.0001	0.000002
Ethylene Glycol	0.04	0.005	0.04	0.005

**Vehicular Traffic**

	Uncontrolled		Controlled	
	lb/hr	tpy	lb/hr	tpy
PM	0.97	0.12	0.97	0.12
PM10	0.19	0.02	0.19	0.02
PM2.5	0.01	0.01	0.01	0.01

**Total Building Heaters (HRTS)**

Criteria Pollutant	Uncontrolled		Controlled	
	lb/hour	ton/yr	lb/hour	ton/yr
VOC	0.0083	0.0364	0.0083	0.0364
PM	0.0115	0.0510	0.0115	0.0510
PM <sub>10</sub>	0.0115	0.0510	0.0115	0.0510
PM <sub>2.5</sub>	0.0115	0.0510	0.0115	0.0510
NO <sub>x</sub>	0.1529	0.6698	0.1529	0.6698
CO	0.1289	0.5626	0.1289	0.5626
SO <sub>2</sub>	0.0010	0.0042	0.0010	0.0042
Total HAPs	0.00288	0.01263	0.00288	0.0126
Lead	0.000001	0.000003	0.000001	0.000003

**Total Facility PTE**

	Uncontrolled		Controlled	
	lb/hr	tpy	lb/hr	tpy
PM	23.93	4.07	1.03	0.18
PM10	23.15	3.97	0.25	0.08
PM2.5	22.97	3.96	0.07	0.07
VOC	0.09	0.05	0.09	0.05
Lead	0.0023	0.0004	0.000006	0.000004
Cadmium	0.0001	0.0000	0.0000002	0.00000005
Arsenic	0.0023	0.0004	0.000005	0.000001
Nickel	0.0092	0.0016	0.000019	0.000004
Mercury	0.00002	0.000004	0.00000005	0.00000001
Vinyl Acetate	0.0023	0.0004	0.000005	0.000001
Formaldehyde	0.0447	0.0076	0.00009	0.00002
Ethylene Oxide	0.0001	0.000002	0.0001	0.000002
Propylene Oxide	0.0001	0.000002	0.0001	0.000002
1,4-Dioxane	0.0001	0.000002	0.0001	0.000002
Acetaldehyde	0.0001	0.000002	0.0001	0.000002
Ethylene Glycol	0.04	0.005	0.04	0.005
Total HAPs	0.1042	0.0280	0.0434	0.0177
NO <sub>x</sub>	0.1529	0.6698	0.1529	0.6698
CO	0.1289	0.5626	0.1289	0.5626
SO <sub>2</sub>	0.0010	0.0042	0.0010	0.0042

By: ADM  
Date: 06/17/2015

Checked By: JJD  
Date: 06/19/2015

**Dry Process Emissions**

Transfer Point	Description	Operating Rate		Emission Factor <sup>1</sup>	Emissions (PM, PM10 and PM2.5)					
					Uncontrolled		Control Device	Control Efficiency	Controlled	
		pph	tpy	pph	tpy		%	pph	tpy	
TP1	Truck to Silo 1-6	40,000	5,000	0.73	14.60	1.83	BH	99.9	0.0146	0.0018
TP2	Silo 1-6 to Screw Conveyor 1-5	20,000	5,000	0.0048	0.05	0.01	FE	80	0.0100	0.0020
TP3	Screw Conveyor 1-5 to Transporter 1	20,000	5,000	0.0048	0.05	0.01	FE	80	0.0100	0.0020
TP4	Transporter 1 to Check Scale Hopper	20,000	5,000	0.73	7.30	1.83	BH	99.9	0.0073	0.0018
TP5	Check Scale Hopper to Mixer	20,000	5,000	0.0048	0.05	0.01	BH	99.9	0.0001	0.0001
TP6	Mixer to Mixed Batch Hopper	20,000	5,000	0.0048	0.05	0.01	BH	99.9	0.0001	0.0001
TP7	Mixed Batch Hopper to Bagger	20,000	5,000	0.0048	0.05	0.01	BH	99.9	0.0001	0.0001
TP8	Bagger to Bag	20,000	5,000	0.0048	0.05	0.01	BH	99.9	0.0001	0.0001
TP9	Bag to Manual Bag Dump <sup>2</sup>	2,000	500	0.0048	0.0048	0.0012	MD	0	0.0048	0.0012
TP10	Manual Bag Dump to Transporter 2	2,000	500	0.0048	0.0048	0.0012	BH	99.9	0.0001	0.0001
TP11	Transporter 2 to Check Scale Hopper	2,000	500	0.73	0.73	0.18	BH	99.9	0.0007	0.0002
TP12	Micro Adds to Mixer	0	0	0.0048	0	0	MD	0	0	0
Total					22.94	3.90			0.0479	0.0095

1. AP-42 Section 11.12, Table 11-12-2. PM, PM10, and PM2.5 are assumed to be equal.

2. For worst case, 10% material recycle is shown through the manual bag dump. Add-ins and micro additions are included as part of the maximum material transfer.

By: ADM  
Date: 06/17/2015

Checked By: JJD  
Date: 06/19/2015

**Dry Process  
Hazardous Air Pollutants (HAPs)**

HAP emissions are based on 100% of throughput for each product below. In practice, the products below are part of a batch mixture.

CAS No.	Product Name HAP	Iron Oxide	Chromium Oxide	Iron Oxide	Elotex	Elotex	Iron Oxide	Iron Oxide	Malment	Maximum	
		Black	Green	Goldenrod	HD1501	FL2211	Black	Yellow	F10	ppm	%
	Product Code	860	5376	10134D	NA	NA	J8105	569	NA		
		ppm	ppm	ppm	%	%	ppm	ppm	%		
7439-92-1	Lead	100	1	100			100	50		100	0.01
7440-43-9	Cadmium	5	1	5			5	5		5	0.0005
7440-38-2	Arsenic	50	1	100			50	50		100	0.01
7440-02-0	Nickel	400		400			400	200		400	0.04
7439-97-6	Mercury			1						1	0.0001
108-05-4	Vinyl Acetate				0.01	0.0001				0.01	0.01
50-00-0	Formaldehyde								0.195	0.195	0.195

**HAP Emissions**

		Uncontrolled		Controlled	
		lb/hr	tpy	lb/hr	tpy
Total Particulate Emissions		22.94	3.90	0.05	0.01
7439-92-1	Lead	0.0023	0.0004	0.000005	0.000001
7440-43-9	Cadmium	0.0001	0.00002	0.0000002	0.00000005
7440-38-2	Arsenic	0.0023	0.0004	0.000005	0.000001
7440-02-0	Nickel	0.0092	0.0016	0.00002	0.000004
7439-97-6	Mercury	0.00002	0.000004	0.00000005	0.00000001
108-05-4	Vinyl Acetate	0.0023	0.0004	0.000005	0.000001
50-00-0	Formaldehyde	0.0447	0.0076	0.000093	0.000019
	Total HAPs	0.0609	0.0104	0.0001	0.0001

By: ADM  
Date: 06/17/2015

Checked By: JJD  
Date: 06/19/2015

**Wet Process Emissions**

**Proposed Production**

Annual Production	
Production (gallons)	50,000
Production (lbs)	495,695
Solids Charged (lbs)	182,000
Total Water <sup>1</sup> (lbs)	246,165
Charged Water (lbs)	115,000
Non-Water Liquids (lbs)	67,530

Batch Production	
Batch (gallons)	550
Batch (lbs)	5,555
Total Water <sup>1</sup> (lbs)	2,760
Non-Water Liquids	1,420
Solids per Batch (lbs)	2,000
Batches	91

1. Total Water includes charged water and water contained in precursor materials.

**Hazardous Air Pollutants (HAPs)**

CAS No.	HAP	Product Constituent Name					Maximum
		Foamaster 111	DSW 208E	888-1810 Colortrend Yellow Oxide	888-7214 Colortrend Phthalo Blue	888-0018 Colortrend Titanium Whit	
75-21-8	Ethylene Oxide	0.02					0.02
75-56-9	Propylene Oxide	0.015					0.015
123-91-1	1,4-Dioxane	0.02					0.02
75-07-0	Acetaldehyde	0.02					0.02
107-21-1	Ethylene Glycol		50	30	30	30	50

**VOC and HAP Emissions**

CAS No.	HAP	Uncontrolled		Controlled	
		lb/hr <sup>3</sup>	tpy	lb/hr <sup>3</sup>	tpy
	VOC <sup>2</sup>	0.08	0.01	0.08	0.01
75-21-8	Ethylene Oxide	0.0001	0.000002	0.0001	0.000002
75-56-9	Propylene Oxide	0.0001	0.000002	0.0001	0.000002
123-91-1	1,4-Dioxane	0.0001	0.000002	0.0001	0.000002
75-07-0	Acetaldehyde	0.0001	0.000002	0.0001	0.000002
107-21-1	Ethylene Glycol	0.04	0.005	0.04	0.005
Total HAPs		0.04	0.005	0.04	0.005

2. The VOC emission was determined from TANKS 4.09d using water as representative of a batch mixture.

3. Pound per hour VOC determined by dividing the yearly value by the number of batches times the batches per hour - 3.71 pounds per year / 91 batches per year \* 2 batches per hour.

HAP emissions are based on 100% of throughput for each product constituent shown. In practice, the materials are part of a batch mixture. For example DSW208E is 0.2% of one product. HAP containing constituent emissions have been estimated at 100% of that constituent to cover future formulations.

**Particulate Emissions**

TP13 Transfer Capacity	EF <sup>4</sup>
lb/hr	tpy
4,000.00	91.00
	0.0048

TP13	Uncontrolled		Control Device	Control Efficiency	Controlled	
	lb/hr	tpy			lb/hr	tpy
PM/PM10/PM2.5	0.0096	0.0002	PE+Vac	70	0.0029	0.00006

4. AP-42 Section 11.12, Table 11-12-2 weigh hopper loading.

By: ADM  
Date: 06/17/2015

Checked By: JJD  
Date: 06/19/2015

**Vehicle Activity**

	Delivery Trucks	Product Trucks
Load Weight (tons)	20	23
Vehicle Weight (tons)	14	14
Vehicles Per Hour	1	1
Vehicles Per Year	260	227
Mean Vehicle Weight (tons)	24.00	25.61
Round Trip Distance	0.1	0.1
Roundup to =	0	Assuming no partial loads.

	Weight Trucked (tons)	
	In	Out
Dry	5,000	5,000
Wet	190	248
Total	5,190	5,248

**Paved Haulroads**

Emission Factor Equation from AP-42 Section 13.2.1, Paved Roads (January 2011):  
 $E = [k * (sL/2)^{0.65} * (W/3)^{1.5} - C] * (1 - (P/4*N)) = \text{lb} / \text{Vehicle Mile Traveled (VMT)}$

	PM	PM <sub>10</sub>	PM <sub>2.5</sub>	
k =	0.082	0.016	0.00054	dimensionless, particle size multiplier
sL =	9.7	9.7	9.7	surface material silt content ( $\mu\text{g}/\text{m}^2$ )
Wtruck =	24.81	24.81	24.81	tons, mean vehicle weight
P =	157	157	157	no. days/year with 0.01 in of rain
C =	0.00047	0.00047	0.00047	factor for exhaust, brake wear and tire wear
e <sub>truck</sub> =	4.86	0.95	0.03	lb/VMT

Rounding to 2

**Trucks**

Pollutant	No. of Vehicles		Miles Per Trip (mi)	Control Device Type	Effic(%)	Emissions			
	Per Hour	Per Year				Uncontrolled		Controlled	
						(lb/hr)	(tpy)	(lb/hr)	(tpy)
PM	2	487	0.10	N	0	0.97	0.12	0.97	0.12
PM <sub>10</sub>	2	487	0.10	N	0	0.19	0.02	0.19	0.02
PM <sub>2.5</sub>	2	487	0.10	N	0	0.01	0.01	0.01	0.01

Pollutant	Uncontrolled Emissions		Controlled Emissions	
	(lb/hr)	(TPY)	(lb/hr)	(TPY)
PM	0.97	0.12	0.97	0.12
PM <sub>10</sub>	0.19	0.02	0.19	0.02
PM <sub>2.5</sub>	0.01	0.01	0.01	0.01

Multicoat Products, Inc.  
Winfield Facility

Potesta & Associates, Inc.  
Project Number: 0101-15-0182

By: ADM  
Date: 06/17/2015

Checked By: JJD  
Date: 06/19/2015

**Total Building Heaters (HRTS)**

Emission Type	Emissions	
	lb/hr	tons/year
CO	0.13	0.56
NO <sub>x</sub>	0.15	0.67
PM	0.01	0.05
PM10	0.01	0.05
PM2.5	0.01	0.05
SO <sub>2</sub>	0.001	0.004
VOC/TOC	0.01	0.04
Lead	0.000001	0.000003
Total HAPS	2.88E-03	1.26E-02

By: ADM  
Date: 06/17/2015

Checked By: JJD  
Date: 06/19/2015

**Building Heaters - Tube Heaters**

There are ten (10) tube building heaters at this facility.

Heating Rating = 150,000 Btu/hr  
 Number of Heaters = 10  
 Total Heater Rating = 1,500,000 Btu/hr  
 1.5 MMBtu/hr  
 Operating Hours = 8,760 hrs/yr

Emission Type	EF (1)		Emissions	
	lb/10 <sup>6</sup> scf	lb/MMBtu (3)	lb/hr	tons/year
CO	84	0.08235	0.12	0.54
NO <sub>x</sub>	100	0.09804	0.15	0.64
PM	7.6	0.00745	0.01	0.05
PM10 (2)	7.6	0.00745	0.01	0.05
PM2.5 (2)	7.6	0.00745	0.01	0.05
SO <sub>2</sub>	0.6	0.00059	0.001	0.004
VOC/TOC	5.5	0.00539	0.01	0.04
Lead	0.0005	4.90E-07	0.000001	0.000003

Rounding to = 3

Note:

1. Emission factors from AP-42, 1.4, Natural Gas Combustion, 7/98.
2. It is assumed that PM10 and PM2.5 are equal to PM.
3. Conversion from lb/10<sup>6</sup> scf to lb/MMBtu (divide by) = 1,020

By: ADM  
Date: 06/17/2015

Checked By: JJD  
Date: 06/19/2015

**Building Heaters HAPs**

Total Heaters Rating =	1.50	MMBtu/hr
Operating Hours =	8,760	hrs/yr

CAS No.	Hazardous Air Pollutants	EF (1)		Emissions	
		lb/10 <sup>6</sup> scf	lb/MMBtu (2)	lb/hr	tons/year
91-57-6	2-Methylnaphthalene	2.40E-05	2.35E-08	3.53E-08	1.55E-07
56-49-5	3-Methylchloranthrene	1.80E-06	1.76E-09	2.65E-09	1.16E-08
57-97-6	7,12-Dimethylbenz(a)anthracene	1.60E-05	1.57E-08	2.35E-08	1.03E-07
83-32-9	Acenaphthene	1.80E-06	1.76E-09	2.65E-09	1.16E-08
203-96-8	Acenaphthylene	1.80E-06	1.76E-09	2.65E-09	1.16E-08
120-12-7	Anthracene	2.40E-06	2.35E-09	3.53E-09	1.55E-08
56-55-3	Benz(a)anthracene	1.80E-06	1.76E-09	2.65E-09	1.16E-08
71-43-2	Benzene	2.10E-03	2.06E-06	3.09E-06	1.35E-05
50-32-8	Benzo(a)pyrene	1.20E-06	1.18E-09	1.76E-09	7.73E-09
205-99-2	Benzo(b)fluoranthene	1.80E-06	1.76E-09	2.65E-09	1.16E-08
191-24-2	Benzo(g,h,i)perylene	1.20E-06	1.18E-09	1.76E-09	7.73E-09
205-82-3	Benzo(k)fluoranthene	1.80E-06	1.76E-09	2.65E-09	1.16E-08
218-01-9	Chrysene	1.80E-06	1.76E-09	2.65E-09	1.16E-08
53-70-3	Dibenzo(a,h)anthracene	1.20E-06	1.18E-09	1.76E-09	7.73E-09
25321-22-6	Dichlorobenzene	1.20E-03	1.18E-06	1.76E-06	7.73E-06
206-44-0	Fluoranthene	3.00E-06	2.94E-09	4.41E-09	1.93E-08
86-73-7	Fluorene	2.80E-06	2.75E-09	4.12E-09	1.80E-08
50-00-0	Formaldehyde	7.20E-02	7.06E-05	1.06E-04	4.64E-04
110-54-3	Hexane	1.80E+00	1.76E-03	2.65E-03	1.16E-02
193-39-5	Indeno(1,2,3-cd)pyrene	1.80E-06	1.76E-09	2.65E-09	1.16E-08
91-20-3	Naphthalene	6.10E-04	5.98E-07	8.97E-07	3.93E-06
85-01-8	Phenanathrene	1.70E-05	1.67E-08	2.50E-08	1.10E-07
129-00-0	Pyrene	5.00E-06	4.90E-09	7.35E-09	3.22E-08
108-88-3	Toluene	3.40E-03	3.33E-06	5.00E-06	2.19E-05
7440-38-2	Arsenic	2.00E-04	1.96E-07	2.94E-07	1.29E-06
7440-41-7	Beryllium	1.20E-05	1.18E-08	1.76E-08	7.73E-08
7440-43-9	Cadmium	1.10E-03	1.08E-06	1.62E-06	7.09E-06
7440-47-3	Chromium	1.40E-03	1.37E-06	2.06E-06	9.02E-06
7440-48-4	Cobalt	8.40E-05	8.24E-08	1.24E-07	5.41E-07
7439-96-5	Manganese	3.80E-04	3.73E-07	5.59E-07	2.45E-06
7439-97-6	Mercury	2.60E-04	2.55E-07	3.82E-07	1.67E-06
7440-02-0	Nickel	2.10E-03	2.06E-06	3.09E-06	1.35E-05
7782-49-2	Selenium	2.40E-05	2.35E-08	3.53E-08	1.55E-07
VOC HAPs Subtotal				2.76E-03	1.21E-02
Metal HAPs Subtotal				8.18E-06	3.58E-05
Total HAPs				2.77E-03	1.21E-02

References:

- AP42 Table 1.4-3 and Table 1.4-4.
- Conversion from lb/10<sup>6</sup> scf to lb/MMBtu (divide by) = 1,020

By: ADM  
Date: 06/17/2015

Checked By: JJD  
Date: 06/19/2015

**Building Heaters - Reznor**

There is one (1) Reznor heater.

Total Heater Rating = 60,000 Btu/hr  
0.06 MMBtu/hr  
Operating Hours = 8,760 hrs/yr

Emission Type	EF (1)		Emissions	
	lb/10 <sup>6</sup> scf	lb/MMBtu (3)	lb/hr	tons/year
CO	84	0.08235	0.005	0.02
NO <sub>x</sub>	100	0.09804	0.01	0.03
PM	7.6	0.00745	0.0005	0.002
PM10 (2)	7.6	0.00745	0.0005	0.002
PM2.5 (2)	7.6	0.00745	0.0005	0.002
SO <sub>2</sub>	0.6	0.00059	0.00004	0.0002
VOC/TOC	5.5	0.00539	0.0003	0.0014
Lead	0.0005	4.90E-07	0.00000003	0.0000001

Rounding to = 5

Note:

1. Emission factors from AP-42, 1.4, Natural Gas Combustion, 7/98.
2. It is assumed that PM10 and PM2.5 are equal to PM.
3. Conversion from lb/10<sup>6</sup> scf to lb/MMBtu (divide by) = 1,020

By: ADM  
Date: 06/17/2015

Checked By: JJD  
Date: 06/19/2015

**Building Heaters HAPs**

Total Heaters Rating =	0.06	MMBtu/hr
Operating Hours =	8,760	hrs/yr

CAS No.	Hazardous Air Pollutants	EF (1)		Emissions	
		lb/10 <sup>6</sup> scf	lb/MMBtu (2)	lb/hr	tons/year
91-57-6	2-Methylnaphthalene	2.40E-05	2.35E-08	1.41E-09	6.18E-09
56-49-5	3-Methylchloranthrene	1.80E-06	1.76E-09	1.06E-10	4.64E-10
57-97-6	7,12-Dimethylbenz(a)anthracene	1.60E-05	1.57E-08	9.41E-10	4.12E-09
83-32-9	Acenaphthene	1.80E-06	1.76E-09	1.06E-10	4.64E-10
203-96-8	Acenaphthylene	1.80E-06	1.76E-09	1.06E-10	4.64E-10
120-12-7	Anthracene	2.40E-06	2.35E-09	1.41E-10	6.18E-10
56-55-3	Benz(a)anthracene	1.80E-06	1.76E-09	1.06E-10	4.64E-10
71-43-2	Benzene	2.10E-03	2.06E-06	1.24E-07	5.41E-07
50-32-8	Benzo(a)pyrene	1.20E-06	1.18E-09	7.06E-11	3.09E-10
205-99-2	Benzo(b)fluoranthene	1.80E-06	1.76E-09	1.06E-10	4.64E-10
191-24-2	Benzo(g,h,i)perylene	1.20E-06	1.18E-09	7.06E-11	3.09E-10
205-82-3	Benzo(k)fluoranthene	1.80E-06	1.76E-09	1.06E-10	4.64E-10
218-01-9	Chrysene	1.80E-06	1.76E-09	1.06E-10	4.64E-10
53-70-3	Dibenzo(a,h)anthracene	1.20E-06	1.18E-09	7.06E-11	3.09E-10
25321-22-6	Dichlorobenzene	1.20E-03	1.18E-06	7.06E-08	3.09E-07
206-44-0	Fluoranthene	3.00E-06	2.94E-09	1.76E-10	7.73E-10
86-73-7	Fluorene	2.80E-06	2.75E-09	1.65E-10	7.21E-10
50-00-0	Formaldehyde	7.20E-02	7.06E-05	4.24E-06	1.86E-05
110-54-3	Hexane	1.80E+00	1.76E-03	1.06E-04	4.64E-04
193-39-5	Indeno(1,2,3-cd)pyrene	1.80E-06	1.76E-09	1.06E-10	4.64E-10
91-20-3	Naphthalene	6.10E-04	5.98E-07	3.59E-08	1.57E-07
85-01-8	Phenanathrene	1.70E-05	1.67E-08	1.00E-09	4.38E-09
129-00-0	Pyrene	5.00E-06	4.90E-09	2.94E-10	1.29E-09
108-88-3	Toluene	3.40E-03	3.33E-06	2.00E-07	8.76E-07
7440-38-2	Arsenic	2.00E-04	1.96E-07	1.18E-08	5.15E-08
7440-41-7	Beryllium	1.20E-05	1.18E-08	7.06E-10	3.09E-09
7440-43-9	Cadmium	1.10E-03	1.08E-06	6.47E-08	2.83E-07
7440-47-3	Chromium	1.40E-03	1.37E-06	8.24E-08	3.61E-07
7440-48-4	Cobalt	8.40E-05	8.24E-08	4.94E-09	2.16E-08
7439-96-5	Manganese	3.80E-04	3.73E-07	2.24E-08	9.79E-08
7439-97-6	Mercury	2.60E-04	2.55E-07	1.53E-08	6.70E-08
7440-02-0	Nickel	2.10E-03	2.06E-06	1.24E-07	5.41E-07
7782-49-2	Selenium	2.40E-05	2.35E-08	1.41E-09	6.18E-09
VOC HAPs Subtotal				1.11E-04	4.84E-04
Metal HAPs Subtotal				3.27E-07	1.43E-06
Total HAPs				1.11E-04	4.86E-04

References:

1. AP42 Table 1.4-3 and Table 1.4-4.
2. Conversion from lb/10<sup>6</sup> scf to lb/MMBtu (divide by) =

1,020

**ATTACHMENT O**

**MONITORING, RECORDKEEPING, REPORTING,  
TESTING PLANS**

## **ATTACHMENT O**

### **MONITORING/RECORDKEEPING/REPORTING/TESTING PLANS**

Multicoat Products, Inc. plans to follow the monitoring, recordkeeping, reporting, and testing requirements of the issued permit.

**ATTACHMENT P**

**PUBLIC NOTICE**

## LEGAL ADVERTISEMENT

### AIR QUALITY PERMIT NOTICE Notice of Application

Notice is given that Multicoat Products, Inc. has applied to the West Virginia Department of Environmental Protection, Division of Air Quality, for a Class II Administrative Update to the permit for a coatings manufacturing facility located on Putnam Business Park Drive in Frazier's Bottom, Putnam County, West Virginia. The latitude and longitude coordinates are: 38.5599 and -81.9764.

The applicant estimates that this modification has the potential to discharge the following Regulated Air Pollutants: CO of 0.56 tons per year (tpy), NO<sub>x</sub> of 0.67 tpy, SO<sub>2</sub> of 0.004 tpy, VOC of 0.04 tpy, PM of 0.05 tpy; PM<sub>10</sub> of 0.05 tpy; PM<sub>2.5</sub> of 0.05 tpy; Lead of 3X10<sup>-6</sup> tpy, and total HAPS of 0.0126 tpy.

The facility is in operation and will operate under the existing permit until the revised permit is issued. Written comments will be received by the West Virginia Department of Environmental Protection, Division of Air Quality, 601 57<sup>th</sup> Street, Charleston, WV 25304, for at least 30 calendar days from the date of publication of this notice.

Any questions regarding this permit application should be directed to the DAQ at (304) 926-0499, Extension 1227, during normal business hours.

Dated this the (PLEASE INSERT DATE) day of July, 2014.

By: Multicoat Products, Inc.  
John A. Dill  
Vice President/General Manager  
PO Box 77  
Frazier's Bottom, West Virginia 25082