

Fact Sheet



For Final Significant Modification Permitting Action Under 45CSR30 and Title V of the Clean Air Act

This Fact Sheet serves to address the changes specific to this Significant Modification, and shall be considered a supplement to the Fact Sheet corresponding with the Title V operating permit issued on November 1, 2011.

Permit Number: **R30-03100030-2011**
Application Received: **August 20, 2012**
Plant Identification Number: **03-54-031-00030**
Permittee: **American Woodmark Corporation**
Facility Name: **South Branch Plant**
Mailing Address: **587 Robert C. Byrd Industrial Park, Moorefield, WV 26836**

Permit Action Number: *SM01* Revised: *April 9, 2013*

Physical Location: Moorefield, Hardy County, West Virginia
UTM Coordinates: 677.73 km Easting • 4,327.129 km Northing • Zone 17
Directions: From Town of Moorefield at intersection of Route 28 and Route 55, take
Route 55 East (Winchester Ave.) approximately 2.2 miles to Robert C.
Byrd Industrial Park Road on left. Plant is approximately 0.5 miles from
Route 55 East on Robert C. Byrd Industrial Park Road.

Facility Description

The main process of the facility is the manufacture and finishing of wood doors and frames for shipment to American Woodmark Corporation facilities across the nation for final assembly into finished kitchen and vanity cabinets. Primary processes will include dimensioning of kiln-dried wood; assembly of parts to create either doors or frames; and finishing of doors, frames and miscellaneous parts.

Proposed Modification

American Woodmark plans to install a woodworking operation and one (1) waste solvent recovery still. The woodworking operation consists of twenty (20) woodworking machines to be installed throughout the facility. The woodworking units include grinders, sanders, drills, dowel machines, polishers, notchers, and various other machines. The pollutants emitted from the woodworking operation include PM, PM₁₀ and PM_{2.5}. The PM, PM₁₀ and PM_{2.5} from the woodworking operation will be controlled by two (2) new 50,000 dscfm baghouses (BH7 and BH8), with a removal efficiency of 99.9% and maximum outlet grain loading not to exceed 0.01 gr/dscf. The PM, PM₁₀ and PM_{2.5} controlled aggregate emissions are estimated to be 37.54 tons per year.

The waste solvent recovery still will have a maximum capacity of 1.71 gallons per hour. The proposed still is totally enclosed and will only open approximately 5% of the time for cleaning purposes. The primary pollutants emitted from the still are VOC and HAP. The potential VOC and HAP (xylene) emissions from the still were determined by using the maximum throughput of waste solvent, the density of the worst case solvent (xylene), one hundred percent (100%) flash-off, and emission factor of five percent (5%) fugitive emissions, and 8,760 hours of operation per year. The VOC and single HAP potential emissions are estimated to be 2.69 tons per year, respectively. The still is not equipped with an air pollution control device.

Emissions Summary

The application states that potential emissions of PM will increase by 3,754.28 tons per year, which does not account for the 99% control efficiency of the proposed baghouses. According to 45CSR§30-2.31, “Any physical or operational limitation on the capacity of a source to emit an air pollutant, including air pollution control equipment...shall be treated as part of its design if the limitation is enforceable.” Since utilization of the baghouses is an enforceable requirement (R13-2571L, condition 4.1.2.), then the effects of the control devices are considered for determining potential emissions for Title V permitting purposes. Therefore, the potential emissions of particulate matter are computed as (3,754.28 tons/yr) × (1 - 0.99) = 37.54 tons/yr.

The table below summarizes the changes in potential emissions (tons per year) for affected pollutants associated with this significant modification.

Pollutant	Current	SM01	Proposed
PM ₁₀	54.09	+ 37.54	91.63
VOC	249.4	0	249.4
Single HAP (xylene)	38.22	+ 2.69	40.91
Aggregate HAPs	149.6	+ 2.69	152.29

Title V Program Applicability Basis

With the proposed changes associated with this modification, this facility maintains the potential to emit 249.4 tpy of VOC; 36.07 tpy of methanol; 63.19 tpy of toluene; 40.91 tpy of xylene; and 152.29 tpy of aggregate HAPs. Due to this facility's potential to emit over 100 tons per year of criteria pollutant, over 10 tons per year of a single HAP, and over 25 tons per year of aggregate HAPs, American Woodmark Corporation's South Branch plant is required to have an operating permit pursuant to Title V of the Federal Clean Air Act as amended and 45CSR30.

Legal and Factual Basis for Permit Conditions

The State and Federally-enforceable conditions of the Title V Operating Permits are based upon the requirements of the State of West Virginia Operating Permit Rule 45CSR30 for the purposes of Title V of the Federal Clean Air Act and the underlying applicable requirements in other state and federal rules.

The modification to this facility has been found to be subject to the following applicable rules:

Federal and State:	45CSR7 45CSR13 45CSR30 45CSR34 40 C.F.R. 63 Subpart DDDDD 40 C.F.R. Part 64	Control of PM from Manufacturing Processes Construction/modification permits Operating permit requirement. Emission standards for HAPs Boiler MACT for Major Sources Compliance Assurance Monitoring (CAM)
State Only:	None	

Each State and Federally-enforceable condition of the draft Title V Operating Permit references the specific relevant requirements of 45CSR30 or the applicable requirement upon which it is based. Any condition of the draft Title V permit that is enforceable by the State but is not Federally-enforceable is identified in the draft Title V permit as such.

The Secretary's authority to require standards under 40 C.F.R. Part 60 (NSPS), 40 C.F.R. Part 61 (NESHAPs), and 40 C.F.R. Part 63 (NESHAPs MACT) is provided in West Virginia Code §§ 22-5-1 *et seq.*, 45CSR16, 45CSR34 and 45CSR30.

Active Permits/Consent Orders

Permit or Consent Order Number	Date of Issuance	Permit Determinations or Amendments That Affect the Permit (<i>if any</i>)
R13-2571L	12/18/2012	

Conditions from this facility's Rule 13 permit(s) governing construction-related specifications and timing requirements will not be included in the Title V Operating Permit but will remain independently enforceable under the applicable Rule 13 permit(s). All other conditions from this facility's Rule 13 permit(s) governing the source's operation and compliance have been incorporated into this Title V permit in accordance with the "General Requirement Comparison Table B," which may be downloaded from DAQ's website.

Determinations and Justifications

- I. **45CSR7 – To Prevent and Control Particulate Matter Air Pollution from Manufacturing Processes and Associated Operations.** The proposed new woodworking machines meet the definition of a “manufacturing process” in 45CSR§7-2.20. The new woodworking machines are subject to the following requirements in the rule:
 - a. 45CSR§7-3.1. Opacity standard. The 20% opacity limit for “source operations” as defined under 45CSR§7-2.38. is applicable to the proposed new woodworking machines. The permittee has proposed the use of two new baghouses (BH7 and BH8) to control the particulate matter emissions from the new woodworking machines. Proper operation and maintenance of the baghouses should allow for compliance with the opacity limit, which is already set forth in permit condition 4.1.4.

By including emission points E17 and E18 in the heading of permit section 4.0, the emission points are included within the scope of this permit condition.

- b. 45CSR§7-4.1. Weight emission standard. The woodworking operations are defined as a type ‘a’ source type operation under 45CSR§7-2.39. Based on information provided to the writer¹, the aggregate maximum amount of material charged through the proposed new woodworking operations is 25,472 pounds per hour (lb/hr). Based on linear interpolation within consecutive rates in Table 45-7A of the rule, the aggregate particulate matter limit for the proposed new woodworking machines is 19.28 lb/hr. The maximum aggregate particulate matter emission rate from baghouses BH7 and BH8 is 8.58 lb/hr², or 44.5% of the 45CSR7 limit. Therefore, the existing streamlining language in permit condition 4.1.1. is valid for BH7 and BH8.

Section 5.1. of 45CSR7 states that each manufacturing process that generates fugitive particulate matter must include a system to minimize such emissions. As the proposed woodworking machines are fully controlled by baghouses, no substantial source of fugitive particulate matter is included in this modification, and thus this section does not apply to the proposed new woodworking machines incorporated by this permitting action.

- II. **45CSR13, Permit No. R13-2571L.** This permit sets forth applicable requirements for the new woodworking machines, their baghouses, and the waste-solvent recovery still. The engineering evaluation for this underlying permit details the changes to permit R13-2571K, which are described in the table below.

R13-2571L	Title V	Discussion of Change
1.0	1.1.	Twenty (20) new woodworking machines and the waste-solvent recovery still have been added to the emission units table. The twenty machines begin with the Unisander (Dust-A8.1) and end with the Door Finisher (Dust-IL6). Baghouses BH7 and BH8 are added to the control device listing.
4.1.11.	4.1.1.	Emission limits for new baghouses BH7 and BH8 have been added to the existing permit condition. The streamlining note was verified for BH7 and BH8 as discussed above concerning the 45CSR7 Weight Emission Standard.
4.1.12.	4.1.2.	New baghouses emission points E17 and E18 have been added to the existing permit condition. Also, the emission unit IDs BH7 and BH8 have been added.
4.1.13.	4.1.3.	New baghouses BH7 and BH8 have been added to the existing permit condition.
4.1.26.	3.1.12.	The language is changed to match R13-2571L, which includes a change in the VOC limit from 249-tpy to 249.4-tpy.
4.1.60.	12.1.1.	Limitations and standards for the waste-solvent recovery still have been written in new permit section 12.0.
4.1.61.	3.1.13.	The citation of authority is revised since new condition 4.1.60. (for the still) was inserted into the underlying permit before the former requirement 4.1.60. that pertained to operation and maintenance of air pollution control equipment.
4.2.2.c.	4.2.1.	New baghouses BH7 and BH8 have been added to the existing permit condition.

¹ An email dated 1/29/2013 from the permittee to the writer.

² Provided in Attachment N of the application. This value is also the sum of the limits in condition 4.1.1. for BH7 and BH8.

R13-2571L	Title V	Discussion of Change
4.2.3.	3.4.11.	The waste-solvent recovery still monitoring and recordkeeping requirements have been added to the first statement of this condition, as well as to “a.” through “e.” of the permit condition. A reference to 3.4.11.a through e. has been made in new permit condition 12.4.1.

Other changes not explicitly detailed in the NSR permit, but are nevertheless necessary for the operating permit, are:

- a. Section heading 4.0 – The emission points E17 and E18 are added to the heading.
- b. Condition 4.2.2. – The emission points E17 and E18 are added to the second paragraph.
- c. Sections 3.7.2.f. through i. – Deleted the permit number suffix “K”.

III. **40 C.F.R. 63 Subpart DDDDD – National Emission Standards for Hazardous Air Pollutants for Major Sources: Industrial, Commercial, and Institutional Boilers and Process Heaters.** The current permit contains placeholder language in condition 5.1.13. that needs to be updated since the final rule was published in the Federal Register on January 31, 2013. Since boiler B1 is existing, its compliance date is January 31, 2016 (cf. 40 C.F.R. §63.7495(b)). For existing sources, DAQ typically includes placeholder language to (1) state the future compliance date for existing sources, and (2) requires the permittee to submit a significant modification application with the required Notification of Compliance Status (NOCS) in order to incorporate applicable requirements and particularly source-specific operating limits established during the initial compliance demonstration pursuant to 40 C.F.R. §63.7530. Refer to permit condition 5.1.13. for revised language and citations of authority for boiler B1.

The final rule now contains applicable requirements for boilers B2 and B4. Both boilers fire only natural gas, and are rated at 20.9 MMBtu/hr and 1.22 MMBtu/hr, respectively. Both boilers are existing since they are neither new nor reconstructed, per the terms in §63.7490(d). Since the units combust natural gas, they meet the definition of “Units designed to burn gas 1 subcategory” in §63.7575. Thus, boilers B2 and B4 are in this subcategory specified in §63.7499(l). 40 C.F.R. §63.7500(a)(1) requires compliance with applicable standards in Tables 1 through 3, and 11 through 13. However, the last sentence of §63.7500(e) indicates that boilers designed to burn gas 1 fuels subcategory are not subject to requirements in Tables 1 and 2 or 11 through 13, or the operating limits in Table 4. The only remaining table to be evaluated is Table 3.

Based on its design and heat input, Items 3 and 4 of Table 3 are applicable to boiler B2. Similarly, Items 1 and 4 are applicable to boiler B4. Thus, both are subject to the one-time energy assessment, while their tune-up frequencies are annual for B2 and every five years for B4. The specific requirements in §§63.7540(a)(10) and (a)(12) have been specified in the permit conditions in order to tailor the condition to the boiler. Refer to conditions 5.1.14. and 5.1.15. for boilers B2 and B4, respectively.

IV. **40 C.F.R. Part 64 Compliance Assurance Monitoring (CAM).** The new equipment must be evaluated to determine if CAM applies to the sources. The following analyses will examine the woodworking machines and their baghouses, and also the waste-solvent recovery still.

WOODWORKING MACHINES & BAGHOUSES

First, the machines are subject to a PM limit in permit condition 4.1.1. Second, baghouses are used to meet the limitation per condition 4.1.2. Third, the units have pre-control device PM₁₀ emissions greater than 100-tpy. The permittee did not have potential emissions data for individual machines. However, using maximum throughputs³ for each woodworking process line, and the aggregate uncontrolled PM₁₀ PTE of 857.14 lb/hr⁴, it has been determined that none of the proposed woodworking lines have a pre-control PTE less than 100-tpy. Therefore, all applicability criteria in §§64.2(a)(1)-(3) are met. Further, the machines meet none of the exemptions in §§64.2(b)(1)(i)-(vi). Thus, CAM is applicable to the woodworking machines and their baghouses BH7 and BH8. The table below is the CAM plan submitted by the permittee in the application for this permitting action.

CAM Plan for Woodworking Machines controlled by Baghouses BH7 and BH8

	Indicator No.1 of 2	Indicator No.2 of 2
I. Indicator Measurement Approach	Pressure Drop	Visible Emissions
	Pressure Gauge	Observation by trained observer
II. Indicator Range	0.5" to 4.0" water (4.2.3.a. references 4.1.3.)	No visible emissions (4.2.3.b.)
QIP threshold	An excursion is defined in 4.2.3.a.	An excursion is defined in 4.2.3.b.
	Excursions trigger an inspection and evaluation, corrective action, recordkeeping and a reporting requirement (permit conditions 4.2.7., 4.4.1., and 4.5.1.).	Excursions trigger an inspection and evaluation, corrective action, recordkeeping and a reporting requirement (permit conditions 4.2.7., 4.4.1., and 4.5.1.).
	A QIP threshold is not required for this permitting action. However, the potential for a QIP is accounted for in condition 4.2.9.	A QIP threshold is not required for this permitting action. However, the potential for a QIP is accounted for in condition 4.2.9.
III. Performance Criteria		
- Data Representativeness	Pressure gauge measuring differential pressure of baghouse.	Method 22 observation
- Verification of Operational Status	Manufacturer's recommendations	Employee training (4.2.2.). Method 22 prescribes the necessary training in its section 2.3.
- QA/QC Practices and Criteria	Maintain gauge according to manufacturer's recommendations. In particular, existing condition 4.3.1. serves as a QA/QC practice that will be made applicable to BH7 and BH8.	Employee training (4.2.2.). Method 22 prescribes the necessary training in its section 2.3.
- Monitoring frequency	Daily (4.2.1.)	Monthly (4.2.2.)
- Data Collection Procedure	Maintain daily records of observed pressure drop reading (4.2.3.a., and 4.4.1., which also incorporates 3.4.1. and 3.4.2.).	Maintain monthly records of Method 22 observations (4.2.3.b., and 4.4.1., which also incorporates 3.4.1. and 3.4.2.).
- Averaging Period	Not applicable	Not applicable

³ Provided in an email dated 1/29/2013 from the permittee to the writer.

⁴ Provided in Attachment L of the application.

Indicator & Monitoring Approach

Pressure drop is an appropriate indicator of baghouse performance. The permittee will utilize a differential pressure gauge to measure the differential pressure. Considering that it is possible for a baghouse to have a bag with a hole in it, and still be within the pressure drop range, VE observations serve as an appropriate back-up indicator to ensure that the baghouse is performing as intended. Method 22 observations are appropriate in this case since there will be normally no visible emissions under typical operations.

Specifications for obtaining representative data

The differential pressure gauge will measure the pressure difference between the inlet and outlet of the baghouse during operation. Moreover, the device will be installed in accordance with the manufacturer's recommendations. For monitoring of visible emissions, the specifications found in Method 22 will be adhered to.

QA/QC

Current permit condition 4.3.1. requires the permittee to annually verify and calibrate the differential pressure sensing devices for the six (6) existing baghouses (BH1 through BH6). Since CAM does not apply to the existing baghouses, but is applicable to BH7 and BH8, a separate citation of authority is written for the CAM-affected baghouses to which this condition will become applicable. To specify the applicability of the current permit requirement, the baghouses BH1 through BH6 have been specified after the existing citation of authority. For monitoring of visible emissions, the specifications found in Method 22 are sufficient QA/QC practices, and this method is integral to condition 4.2.2.

Monitoring Frequency

Application Attachment L states that aggregate uncontrolled PM potential emissions are 857.14 lb/hr for all twenty (20) machines. The operating schedule is 8,760 hours/year. Thus, uncontrolled PM PTE is $(857.14 \text{ lb/hr}) \times (8,760 \text{ hr/yr}) \times (1 \text{ ton}/2,000 \text{ lb}) = 3,754 \text{ TPY}$. Taking into account the 99% control efficiency of the baghouses, the aggregate potential emissions after control are 37.54 TPY. Since the PTE calculated including the effect of the control device is less than the major source threshold for PM₁₀ (100 TPY), the frequency of data collection may be less than that specified in 40 C.F.R. §64.3(b)(4)(ii) but shall include some data collection at least once per 24-hour period in accordance with 40 C.F.R. §64.3(b)(4)(iii). The permittee proposes to monitor the differential pressure at least once per day, which meets this applicable CAM requirement. The monthly monitoring frequency of visible emissions is sufficient since there are normally no visible emissions and the Method 22 monitoring is used in conjunction with the daily pressure drop monitoring.

Data Collection Procedures & Data Averaging

Pressure drop data is polled and recorded by an observer at least once per day. There is no averaging of data in this case. The monthly Method 22 observation is not averaged (due to the nature of Method 22 yielding "yes" or "no" results as opposed to a numeric value).

WASTE-SOLVENT RECOVERY STILL

The proposed Waste-Solvent Recovery Still (Em. Unit ID: PR-SS2) has xylene (which is both a HAP and VOC) potential emissions of 2.69 tons per year. There will be no control device utilized for the still. Since the criteria of 40 C.F.R. §§64.2(a)(2) and (3) are not met, CAM is not applicable to the Waste-Solvent Recovery Still.

Non-Applicability Determinations

The following requirements have been determined not to be applicable to the subject facility due to the following:

None.

Request for Variances or Alternatives

None.

Insignificant Activities

Insignificant emission unit(s) and activities are identified in the Title V application.

Comment Period

Beginning Date: 2/20/2013

Ending Date: 3/22/2013

All written comments should be addressed to the following individual and office:

Denton B. McDerment, PE
Title V Permit Writer
West Virginia Department of Environmental Protection
Division of Air Quality
601 57th Street SE
Charleston, WV 25304

Procedure for Requesting Public Hearing

During the public comment period, any interested person may submit written comments on the draft permit and may request a public hearing, if no public hearing has already been scheduled. A request for public hearing shall be in writing and shall state the nature of the issues proposed to be raised in the hearing. The Secretary shall grant such a request for a hearing if he/she concludes that a public hearing is appropriate. Any public hearing shall be held in the general area in which the facility is located.

Point of Contact

Denton B. McDerment, PE
West Virginia Department of Environmental Protection
Division of Air Quality
601 57th Street SE
Charleston, WV 25304
Phone: 304/926-0499 ext. 1221 • Fax: 304/926-0478

Response to Comments (Statement of Basis)

Public Comments

No comments were received from the public, which includes the permittee.

U.S EPA Comments

On February 15, 2013, the permit writer received a comment via e-mail from Mr. Mike Gordon of U.S. EPA Region III. The substantive portion of the comment reads as follows:

The fact sheet lists the VOC PTE as 251.79 TPY in certain sections. The fact sheet and permit also list the VOC PTE as 249.4 TPY. In order to avoid any future confusion over whether or not they are a major source for PSD, I recommend changing the table in the Emissions Summary and Title V Program Applicability section of the fact sheet to say that the VOC PTE is 249.4 TPY.

Condition 4.1.26. of permit R13-2571L limits aggregate facility VOC emissions to 249.4 tons per year, which revision has been incorporated into the operating permit as condition 3.1.12.

From the evaluation for R13-2571L concerning non-applicability of PSD State rule 45CSR14:

The South Branch Plant, according to the PTE given in the (R30-03100030-2011) Title V Fact Sheet, is an existing “minor stationary source” under 45CSR14 - i.e., PTE of each regulated pollutant is less than 250 TPY. The post-modification facility-wide PTE of each pollutant shall remain below 250 TPY and, therefore, the proposed change is not defined as a major modification under 45CSR14 and the provisions do not apply.

This determination is based on both the addition of the particulate matter emissions from the woodworking operations and the retainment of the facility-wide 249.4 tons/year VOC limit given under 4.1.26 of the existing permit. AWC shows compliance with this limit based on actual emission tracking as required under 4.2.3. of the existing permit. AWC will be required to track emissions of the waste-recovery solvent still and apply them toward compliance with this limit. Therefore, there will be no increase *in the PTE* of VOC by the addition of the recovery still.

In other words, the 2.69 tpy of VOC from the new recovery still will be absorbed into the entire facility, and emissions will be tracked to ensure that the aggregate facility VOC emission limit is not exceeded. Thus, the enforceable limitation provides for the “no increase *in the PTE* of VOC by the addition of the recovery still.” It is noted that the existing permit R13-2571K, 4.1.26., gave a limit of 249 tpy – not 249.4 tpy, as specified in the evaluation for R13-2571L. Nevertheless, the limit will be changed to 249.4 tpy to agree with R13-2571L, 4.1.26.

The table in the Emissions Summary of this Fact Sheet is changed as follows:

Pollutant	Current	SM01	Proposed
PM ₁₀	54.09	+ 37.54	91.63
VOC	249.1 <u>249.4</u>	+2.69 <u>0</u>	251.79 <u>249.4</u>
Single HAP (xylene)	38.22	+ 2.69	40.91
Aggregate HAPs	149.6	+ 2.69	152.29