



Commonwealth of Massachusetts
Executive Office of Energy & Environmental Affairs

Department of Environmental Protection

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September 1, 2015

Mr. Joshua Weissman, Vice President
Moduform, Inc.
172 Industrial Road
Fitchburg, MA 01420

RE: Fitchburg
Transmittal No.: X263553
Application No.: CE-14-028
Class: SM79-7
FMF No.: 137332
AIR QUALITY PLAN APPROVAL

Dear Mr. Weissman:

The Massachusetts Department of Environmental Protection (“MassDEP”), Bureau of Air and Waste, has reviewed your Limited Plan Application (“Application”) listed above. This Application concerns your proposal to redirect the exhaust from two existing baghouses at your furniture manufacturing facility located at 172 Industrial Road in Fitchburg, Massachusetts (“Facility”) to the ambient air.

This Application was submitted in accordance with 310 CMR 7.02 Plan Approval and Emission Limitations as contained in 310 CMR 7.00 “Air Pollution Control” regulations adopted by MassDEP pursuant to the authority granted by Massachusetts General Laws, Chapter 111, Section 142 A-O, Chapter 21C, Section 4 and 6, and Chapter 21E, Section 6. MassDEP’s review of your Application has been limited to air pollution control regulation compliance and does not relieve you of the obligation to comply with any other regulatory requirements.

MassDEP has determined that the Application is administratively and technically complete and that the Application is in conformance with the Air Pollution Control regulations and current air pollution control engineering practice, and hereby grants this **Plan Approval** for said Application, as submitted, subject to the conditions listed below.

Please review the entire Plan Approval, as it stipulates the conditions with which the Facility owner/operator (“Permittee”) must comply in order for the Facility to be operated in compliance with this Plan Approval.

Moduform, Inc shall comply with this Plan Approval, Tr. No. X263553 in addition to Plan Approvals Tr. Nos. W025552 and W094328 previously issued to Moduform, Inc.

1. DESCRIPTION OF FACILITY AND APPLICATION

Moduform, Inc. (the "Permittee") located at 172 Industrial Road, Fitchburg, MA manufactures institutional furniture for health care, correctional, military and educational markets. Furniture products include chairs, tables and cabinets. The manufacturing processes include woodworking, vinyl molding and vinyl surface coating, foam injection of fabricated cushions, wood finishing and miscellaneous metal parts coating. The Facility emits particulate matter, volatile organic compounds and Hazardous Air Pollutants.

Woodworking operations include receiving and storing rough mill lumber, sawing, routing, drilling, planing and sanding wood stock. Particulate matter (sawdust) generated by the various woodworking machines is collected at the machines by a pneumatic dust collection system and is ducted to two baghouses. Sawdust is removed from the exhaust by the two baghouses. The captured sawdust handling system removes sawdust captured by the baghouses and pneumatically transports the captured sawdust to an enclosed box trailer for removal off site.

Moduform is currently subject to two previously issued Plan Approvals. Plan Approval Tr. No. W025552, which was issued on July 12, 2002, set limits for the application of coatings using volatile organic compounds and hazardous air pollutants and other activities. Plan Approval Tr. No. W094328 was issued on January 30, 2007 for the installation of an automated conveyerized stain line.

The Permittee is applying to redirect the exhaust of the two baghouses currently installed at the Facility to the ambient air through three new stacks. The Moldow baghouse has three inlets and two stacks. The baghouses exhaust had previously been discharged back into the Moduform workspace as described in Section II.B. of Plan Approval Tr. No. W025552. This Plan Approval does not change any requirement of the two previously issued Plan Approvals, both of which remain in effect.

This Application is submitted in compliance with a Notice of Noncompliance (NON-CE-14-9008-27) issued to Moduform on May 19, 2014.

The Application states that the MassDEP Top Case Best Available Control Technology (BACT) guidelines have no category for wood dust collection but that BACT for Dry Bulk Material Handling and Unloading Activities is a close analogy. The Application proposes to control sawdust emissions using baghouses with 99.99% removal efficiency and 0% opacity. Those proposals are consistent with the Dry Bulk Material BACT. MassDEP has determined the Applicant is proposing top case BACT.

2. EMISSION UNIT (EU) IDENTIFICATION

Each Emission Unit (EU) identified in Table 1 is subject to and regulated by this Plan Approval:

Table 1			
EU	Description	Design Capacity	Pollution Control Device (PCD)
1	Abrasive planer; gang rip saw; chop saw 1; rip saw; cutoff saw; molder; double end tenoner; drill & dowel; edge sander; panel saw 1; panel saw 2; stroke sander; table saw 1; edge sander; brush sander; band saw; captured sawdust storage trailer.	15,000 cubic feet per minute	Carter Day Model 232RF8 Baghouse
2	Section A: Moldow fan no. 3 - table saw 3; table saw 4; Timesavers veneer sander; Costa veneer sander; edge bander; Rover CNC router; drill & dowel; chop saw 2. Section B: Moldow fan no. 1 - table saw 2; wide belt sander 1; wide belt sander 2. Moldow fan no. 2 - CMS CNC router; Skipper CNC router.	24,000 cubic feet per minute total of three fans	Moldow Model SA-336 Baghouse

Table 1 Key:

EU = Emission Unit Number
PCD = Pollution Control Device

3. APPLICABLE REQUIREMENTS

A. OPERATIONAL, PRODUCTION and EMISSION LIMITS

The Permittee is subject to, and shall not exceed the Operational, Production, and Emission Limits as contained in Table 2:

Table 2			
EU	Operational / Production Limit	Air Contaminant	Emission Limit
1	1. Pressure drop across the baghouse between 1 and 8 inches of water	PM/PM ₁₀ /PM _{2.5} ¹ (filterable)	0.035 pounds per hour ² 99.99% removal efficiency

Table 2			
EU	Operational / Production Limit	Air Contaminant	Emission Limit
2	2. Pressure drop across the baghouse between 0.5 and 5 inches of water	PM/PM ₁₀ /PM _{2.5} ¹ (filterable)	0.056 pounds per hour ² 99.99% removal efficiency
1 and 2	3. No visible sawdust deposition outdoors	PM/PM ₁₀ /PM _{2.5} ¹ (filterable)	0.1 tons per month 0.4 tons per 12 month rolling period
		Opacity	Opacity shall not exceed 0% at all times.

Table 2 Key:

EU = Emission Unit
% = percent
PM = Particulate matter
PM₁₀ = Particulate matter less than or equal to 10 microns in diameter
PM_{2.5} = Particulate matter less than or equal to 2.5 microns in diameter

Table 2 Notes:

1. All PM and PM₁₀ values are assumed to be PM_{2.5}.
2. The Permittee shall use the actual emission rate (determined by emission testing) to demonstrate compliance with monthly and 12 month rolling period emission limits as required by Table 4 Item 3.

B. COMPLIANCE DEMONSTRATION

The Permittee is subject to, and shall comply with, the monitoring, testing, record keeping, and reporting requirements as contained in Tables 3, 4, and 5:

Table 3	
EU	Monitoring and Testing Requirements
1 and 2	<ol style="list-style-type: none"> 1. The Permittee shall install and maintain sensors to determine the pressure differential across each of the two baghouses. The Permittee shall install and maintain the sensors in accordance with the manufacturer's recommendations. The Permittee shall monitor the pressure differential across each of the baghouses at least once per day. 2. The Permittee shall inspect the baghouses, ducts, area nearby the baghouses and the captured sawdust handling system¹ for evidence of fugitive emissions to the ambient air at least once per day.

¹ The "captured sawdust handling system" includes ducting from each of the baghouses to the box trailer, the box trailer, and ducting from the box trailer to the Carter Day baghouse.

Table 3	
EU	Monitoring and Testing Requirements
	<p>3. The Permittee shall inspect the following at least once every 6 calendar months:</p> <ul style="list-style-type: none"> a. the internal clean side of the two baghouses, b. the filter bags for evidence of blinding, wear or breakthrough, c. filter bag mounting hardware for loose connections and breakthrough, d. captured sawdust handling system for wear and malfunctions, and e. other moving parts for wear and malfunctions.
	<p>4. The Permittee shall conduct Visolite, or equivalent, testing of the baghouses as needed, but at least once every 12 calendar months in order to locate leaks, bag failures, or other problems. Alternatively, the Permittee shall replace the filter bags at a frequency of at least once every 12 months.</p>
	<p>5. The Permittee shall conduct emission testing of the baghouses no later than January 11, 2016. The Permittee shall test the exhaust from the baghouses to determine the compliance status with either the removal efficiency limits or the pound per hour emission limits in Table 2. The Permittee may conduct emission testing using USEPA Reference Test Method 5 at 40 CFR 60 Appendix A-3. During the emission testing EUs 1 and 2 shall operate at 90% or more capacity.</p>
Facility-wide	<p>6. If and when MassDEP requires it, the Permittee shall conduct emission testing in accordance with USEPA Reference Test Methods and 310 CMR 7.13</p>
	<p>7. The Permittee shall monitor all operations to ensure sufficient information is available to comply with 310 CMR 7.12 Source Registration.</p>

Table 3 Key:

CMR = Code of Massachusetts Regulations

EU = Emission Unit

USEPA = United States Environmental Protection Agency

Table 4	
EU	Record Keeping Requirements
1 and 2	<p>1. The Permittee shall record the results of the inspections required by Table 3 Items 1 through 4, including the date and time of the inspections and the inspector.</p>
	<p>2. The Permittee shall record the weight of captured sawdust shipped off site.</p>

Table 4	
EU	Record Keeping Requirements
Facility-wide	<p>3. The Permittee shall maintain adequate records on site to demonstrate compliance with all operational, production, and emission limits contained in Table 2 above. Records shall also include the actual emissions of air contaminant(s) emitted for each calendar month and for each consecutive twelve-month period. Records demonstrating compliance with the tons per month and tons per year emission limits in Table 2 above may be based on the amount of captured sawdust shipped off site² and/or the actual hourly emission rate determined by emission testing. These records shall be compiled no later than the 15th day following each month. An electronic version of the MassDEP approved record keeping form, in Microsoft Excel format, can be downloaded at: http://www.mass.gov/eea/agencies/massdep/air/approvals/limited-emissions-record-keeping-and-reporting.html#WorkbookforReportingOn-SiteRecordKeeping.</p>
	4. The Permittee shall maintain records of monitoring and testing as required by Table 3.
	5. The Permittee shall maintain a copy of this Plan Approval, underlying Application and the most up-to-date SOMP for the PCDs approved herein on site.
	6. The Permittee shall maintain a record of routine maintenance activities performed on the approved PCDs and monitoring equipment. The records shall include, at a minimum, the type or a description of the maintenance performed and the date and time the work was completed.
	7. The Permittee shall maintain a record of all malfunctions affecting air contaminant emission rates on the approved PCDs and monitoring equipment. At a minimum, the records shall include: date and time the malfunction occurred; description of the malfunction; corrective actions taken; the date and time corrective actions were initiated and completed; and the date and time emission rates and monitoring equipment returned to compliant operation.
	8. The Permittee shall maintain records required by this Plan Approval on site for a minimum of five (5) years.
	9. The Permittee shall make records required by this Plan Approval available to MassDEP and USEPA personnel upon request.
	10. The Permittee shall maintain records to ensure sufficient information is available to comply with 310 CMR 7.12 Source Registration.

Table 4 Key:

- EU = Emission Unit
- PCD = Pollution control device
- SOMP = Standard Operating and Maintenance Procedure
- USEPA = United States Environmental Protection Agency

²If using the amount of captured sawdust shipped off site to demonstrate compliance and captured sawdust is not shipped off site during a month, there is no need to demonstrate compliance with the tons per month emission limit for that month. However, the Permittee must demonstrate compliance with the emission limit for each 12 month rolling period.

Table 5	
EU	Reporting Requirements
Facility-wide	1. The Permittee shall submit to MassDEP all information required by this Plan Approval over the signature of a “Responsible Official” as defined in 310 CMR 7.00 and shall include the Certification statement as provided in 310 CMR 7.01(2)(c).
	2. The Permittee shall notify the Central Regional Office of MassDEP, BAW Permit Chief by telephone: 508-767-2845, email: CERO.air@massmail.state.ma.us or fax: 508-792-7621, as soon as possible, but no later than three (3) business days after discovery of an exceedance(s) of Table 2 requirements. A written report shall be submitted to Permit Chief at MassDEP within ten (10) business days thereafter and shall include: identification of exceedance(s), duration of exceedance(s), reason for the exceedance(s), corrective actions taken, and action plan to prevent future exceedance(s).
	3. The Permittee shall provide a copy to MassDEP of any record required to be maintained by this Plan Approval within 30 days from MassDEP’s request.
	4. The Permittee shall report annually to MassDEP, in accordance with 310 CMR 7.12, all information as required by the Source Registration/Emission Statement Form. The Permittee shall note therein any minor changes (under 310 CMR 7.02(2)(e), 7.03, 7.26, etc.), which did not require Plan Approval.
	5. The Permittee shall submit to MassDEP for approval a stack emission pretest protocol, at least 30 days prior to emission testing, for emission testing as defined in Table 3.
	6. The Permittee shall submit to MassDEP a final stack emission test results report, within 45 days after emission testing, for emission testing as defined in Table 3.

Table 5 Key:

BAW = Bureau of Air and Waste
CMR = Code of Massachusetts Regulations
EU = Emission Unit

4. SPECIAL TERMS AND CONDITIONS

The Permittee is subject to, and shall comply with, the following special terms and conditions:

- A. The Permittee is subject to and shall comply with the Special Terms and Conditions as contained in Table 6:

Table 6	
EU	Special Terms and Conditions
1 and 2	<p>1. The Permittee shall operate the baghouses at all times that EU 1 and any section of EU 2 are operating. The Permittee shall electrically interlock controls for the dust collection system. The Permittee shall provide electrical interlocks to assure controls are started in the following order: first, the fan to deliver sawdust to the box trailer, next the rotary air lock that delivers sawdust to the trailer delivery fan, then the dust collection system for EUs 1 and 2.</p> <p>2. The Permittee shall duct the exhaust from the box trailer to the Carter Day baghouse.</p> <p>3. The Permittee shall install stack testing ports that comply with 40 CFR 60, Appendix A, Method 1 at the inlets of the baghouses and in the exhaust stacks.</p> <p>4. The Permittee shall install exhaust stacks that discharge the exhaust from the baghouses vertically upwards no later than October 13, 2015.</p>
Facility-wide	<p>5. The Permittee shall assure no fugitive emissions of particulate matter are emitted into the ambient air from the baghouses, ducts or the captured sawdust handling system.</p> <p>6. The Permittee shall make any repairs and/or perform any maintenance that are/is indicated as a result of the inspections and testing required by Table 3 Items 1 through 4 in a timely manner in order to comply with the operational and emission limits in Table 2 and with Table 6 Item 5.</p> <p>7. Plan Approvals Tr. Nos. W025552 and W094328 previously issued under 310 CMR 7.02 shall remain in effect unless specifically changed or superseded by this Plan Approval. The Facility shall not exceed the emission limits and shall comply with approved conditions specified in the Plan Approvals previously issued unless specifically altered by this Plan Approval.</p>

Table 6 Key:

CMR = Code of Massachusetts Regulations
EU = Emission Unit

- B. The Permittee shall install and use an exhaust stack, as required in Table 7, on each of the Emission Units that is consistent with good air pollution control engineering practice and that discharges so as to not cause or contribute to a condition of air pollution. Each exhaust stack shall be configured to discharge the gases vertically and shall not be equipped with any part or device that restricts the vertical exhaust flow of the emitted gases, including but not limited to rain protection devices known as “shanty caps” and “egg beaters.”

- C. The Permittee shall install and utilize exhaust stacks with the following parameters, as contained in Table 7, for the Emission Units that are regulated by this Plan Approval:

Table 7				
EU	Stack Height Above Ground (feet)	Stack Inside Exit Dimensions (feet)	Stack Gas Exit Velocity Range (feet per second)	Stack Gas Exit Temperature Range (°F)
1	30	2.5	10-55	10-110
2 ³	30	2.5	10-45	10-110
2 ³	30	2.5	10-45	10-110

Table 7 Key:

EU = Emission Unit Number
°F = Degree Fahrenheit

5. GENERAL CONDITIONS

The Permittee is subject to, and shall comply with, the following general conditions:

- A. Pursuant to 310 CMR 7.01, 7.02, 7.09 and 7.10, should any nuisance condition(s), including but not limited to smoke, dust, odor or noise, occur as the result of the operation of the Facility, then the Permittee shall immediately take appropriate steps including shutdown, if necessary, to abate said nuisance condition(s).
- B. If asbestos remediation/removal will occur as a result of the approved construction, reconstruction, or alteration of this Facility, the Permittee shall ensure that all removal/remediation of asbestos shall be done in accordance with 310 CMR 7.15 in its entirety and 310 CMR 4.00.
- C. If construction or demolition of an industrial, commercial or institutional building will occur as a result of the approved construction, reconstruction, or alteration of this Facility, the Permittee shall ensure that said construction or demolition shall be done in accordance with 310 CMR 7.09(2) and 310 CMR 4.00.
- D. Pursuant to 310 CMR 7.01(2)(b) and 7.02(7)(b), the Permittee shall allow MassDEP and / or USEPA personnel access to the Facility, buildings, and all pertinent records for the purpose of making inspections and surveys, collecting samples, obtaining data, and reviewing records.

³ The Moldow baghouse, which services EU 2, has two stacks.

- E. This Plan Approval does not negate the responsibility of the Permittee to comply with any other applicable Federal, State, or local regulations now or in the future.
- F. Should there be any differences between the Application and this Plan Approval, the Plan Approval shall govern.
- G. Pursuant to 310 CMR 7.02(3)(k), MassDEP may revoke this Plan Approval if the construction work is not commenced within two years from the date of issuance of this Plan Approval, or if the construction work is suspended for one year or more.
- H. This Plan Approval may be suspended, modified, or revoked by MassDEP if MassDEP determines that any condition or part of this Plan Approval is being violated.
- I. This Plan Approval may be modified or amended when in the opinion of MassDEP such is necessary or appropriate to clarify the Plan Approval conditions or after consideration of a written request by the Permittee to amend the Plan Approval conditions.
- J. Pursuant to 310 CMR 7.01(3) and 7.02(3)(f), the Permittee shall comply with all conditions contained in this Plan Approval. Should there be any differences between provisions contained in the General Conditions and provisions contained elsewhere in the Plan Approval, the latter shall govern.

6. MASSACHUSETTS ENVIRONMENTAL POLICY ACT

MassDEP has determined that the filing of an Environmental Notification Form (ENF) with the Secretary of Energy & Environmental Affairs, for air quality control purposes, was not required prior to this action by MassDEP. Notwithstanding this determination, the Massachusetts Environmental Policy Act (MEPA) and 301 CMR 11.00, Section 11.04, provide certain “Fail-Safe Provisions,” which allow the Secretary to require the filing of an ENF and/or an Environmental Impact Report (EIR) at a later time.

7. APPEAL PROCESS

This Plan Approval is an action of MassDEP. If you are aggrieved by this action, you may request an adjudicatory hearing. A request for a hearing must be made in writing and postmarked within twenty-one (21) days of the date of issuance of this Plan Approval.

Under 310 CMR 1.01(6)(b), the request must state clearly and concisely the facts, which are the grounds for the request, and the relief sought. Additionally, the request must state why the Plan Approval is not consistent with applicable laws and regulations.

The hearing request along with a valid check payable to the Commonwealth of Massachusetts in the amount of one hundred dollars (\$100.00) must be mailed to:

Commonwealth of Massachusetts
Department of Environmental Protection
P.O. Box 4062
Boston, MA 02211

This request will be dismissed if the filing fee is not paid, unless the appellant is exempt or granted a waiver as described below. The filing fee is not required if the appellant is a city or town (or municipal agency), county, or district of the Commonwealth of Massachusetts, or a municipal housing authority.

MassDEP may waive the adjudicatory hearing-filing fee for a person who shows that paying the fee will create an undue financial hardship. A person seeking a waiver must file, together with the hearing request as provided above, an affidavit setting forth the facts believed to support the claim of undue financial hardship.

Enclosed is a stamped approved copy of the application submittal.

Should you have any questions concerning this Plan Approval, please contact Stephen Majkut of this office by telephone at 508-767-2773, email at stephen.majkut@state.ma.us, or in writing at the letterhead address.

This final document copy is being provided to you electronically by the Department of Environmental Protection. A signed copy of this document is on file at the DEP office listed on the letterhead.

Roseanna E. Stanley
Permit Chief
Bureau of Air and Waste

Enclosure

ecc: Fitchburg Health Department
Fitchburg Fire Department
Yi Tian, MassDEP/Boston
Kim McCoy, MassDEP/CERO
J. Andrew Irwin, IRWIN Engineers, Inc.