

#AOP-18-029

DEC#SJ95-0142

Operating Permit Expiration Date: September 3, 2024

State of Vermont  
Agency of Natural Resources  
Department of Environmental Conservation



Air Quality & Climate Division  
Montpelier, Vermont

**TITLE V**  
**AIR POLLUTION CONTROL PERMIT**  
**TO CONSTRUCT AND OPERATE**

Date Permit Issued: September 5, 2019

Owner/Operator: Ethan Allen Operations, Inc.  
Beecher Falls Division  
P.O. Box 217  
Beecher Falls, Vermont 05902-0217

Source: Wood Furniture Manufacturing and Finishing  
Ethan Allen Operations, Inc.  
Beecher Falls Division  
1280 VT Route 253 (Main Street)  
Beecher Falls, Vermont 05902-0217

## FINDINGS OF FACT

### (A) FACILITY DESCRIPTION

Ethan Allen Operations, Inc. - Beecher Falls Division (also referred to herein as "Permittee") owns and operates a wood furniture manufacturing facility at 1280 VT Route 253 in the town of Beecher Falls, Vermont (also referred to herein as "Facility"). Operations at the Facility include a rough mill, drying kilns, woodworking processes, wood gluing, ultra-violet (UV) roll coat wood finishing, and boilers for process and space heat. The Permit herein is the renewal of the Title V Permit to Operate for the Facility.

The Facility currently consists of the following air pollution related equipment and operations:

<b>Equipment Specifications - Energy Plant <sup>1</sup></b>			
Boiler unit	Unit Rating(s): MMBtu/hr <sup>2</sup> max heat input	Fuel Type(s)	Year of Installation
Bigelow Boiler #240 Type F54/46 (6479 ft <sup>2</sup> boiler heating surface)	54 MMBtu /hr	Wood (flyash reinjection)	1950
Wickes Boiler #239 Type A (3565 ft <sup>2</sup> boiler heating surface)	37 MMBtu/hr (wood) 24.9 MMBtu /hr (oil)	Wood / No.4 oil (flyash reinjection)	1950
Bigelow Boiler #232 Model ST-304-PF	19.5 MMBtu /hr	No.4 oil	1970
Cleaver-Brooks Boiler #238, Model CB600-500 (finishing bldg)	21.0 MMBtu /hr	No.4 oil	1972
Dravo Furnace Model 200 (sawmill)	2.5 MMBtu /hr	No.2 oil	1972
Emergency Fire Pump Detroit Diesel Model 4061AZ	115 HP <sup>3</sup>	Ultra-low sulfur diesel	Unknown, estimated 1960

<sup>1</sup> Equipment specifications are based on the best available information at the time of permit issuance and may be subject to some uncertainty due to use of certain assumptions and calculations for older and site engineered/fabricated equipment.

<sup>2</sup> MMBtu/hr - Million British Thermal Units per hour maximum rated heat input.

<sup>3</sup> HP – engine rated output – horsepower.

Equipment Specifications – Wood Waste Handling Operations		
Wood Waste Handling Operation (if known: date installed)	Air Flow (acfm)	Unit Description/Specifications
Fuel Metering Bin Cyclone #6	Closed loop	Emergency conveying of wood fuel from silos to metering bin in the event the flight conveyors are inoperable. Conveying air is returned from cyclone outlet back to blower 5022 with no ambient discharge. Cyclone diameter 3' 10".
Sawmill Cyclone #7	20,410	Conveying of green material only (sawdust) to relay silo. Unit: 10'0" diameter. Emission sources: 5023 – sawdust (6,280 cfm); 5025 – sawdust (7,065 cfm); 5026 – sawdust (7,065 cfm).
System B - Rough Mill Pneumafil #4 fabric filter (12/22/2003)	48,800	Conveying of rough mill dry wood wastes. Pneumafil Model 13.5-460-10 Unit: 5,922 sq.ft. cloth filter area: 8:1 air to cloth. Emission sources: 5003 – planer mill relay (5,500 cfm); 5004 – rough mill relay (10,000 cfm); 5005 – rough mill relay (6,200 cfm); 5009 – UV Pneumafil #3 relay (5,500 cfm); Relays through Cyclone #3/Silo#1: 6006 – System A relay (10,800 cfm) 6005 – System B relay (10,800 cfm).
System B – Rough Mill MAC #1 fabric filter (12/15/2003)	39,300 <sup>1</sup>	Conveying of rough mill dry wood wastes. MAC Model 144MCF416 Unit: 6,032 sq.ft. cloth filter area: 5.2:1 air to cloth. Emission sources: 5010 – abrasive planer (8,000 cfm); 5018 – abrasive planer (8,000 cfm). 5011 – saw (8,000 cfm); 7001 – rip saw relay (15,300 cfm);
System A – Finish Mill/ Sanding MAC #2 fabric filter (2004)	50,400	Conveying of finish mill dry wood wastes. MAC Model 144MCF361 Unit: 5,202 sq.ft. cloth area: 9.7:1 air to cloth. Emission sources: 4002 – wide belt sander (5,500 cfm), 4003 – orbital sander (4,800 cfm), 5012T – molders (19,200 cfm), 5017 – CNC routers (8,900cfm), 5502 – DMC sander (12,000 cfm).

<b>Equipment Specifications – Wood Waste Handling Operations</b>		
Wood Waste Handling Operation (if known: date installed)	Air Flow (acfm)	Unit Description/Specifications
System A – Finish Mill/ Sanding  Cyclone #5	58,200	Conveying of finish mill dry wood wastes. Unit: 13'8" diameter Emission sources: 5013 – tenors (7,100 cfm); 5014T – tenors (19,200 cfm); 5015 – lathe (9,800 cfm); 5016 – sander (8,000 cfm); 6001 – shaper etc. (14,100 cfm).
System A – Finish Mill/ Sanding  Pneumafil #1 fabric filter (1981)	35,200	Conveying of finish mill dry wood wastes. Pneumafil model 11.5-316-8 Unit: 3,255 sq.ft. cloth area: 10.8:1 air to cloth Emission sources: 5019 – sanding (9,800 cfm), 5020 – sanding (7,100cfm), 5501 – sanding (12,000cfm), 5021 – routers (6,300cfm).
Silo #1 with  Cyclone #30	21,600	Receives material relayed from 6006 – System A (10,800 cfm) and relayed from 6005 – System B (10,800 cfm) which utilizes wood hog line conveying air (5006). Cyclone exit ducted back to System B Pneumafil #4 with emergency bypass to System B MAC #1.
Silo #4 with  Cyclone #2	38,300	Receives green material only including sawdust, chips and bark relayed from sawmill and hammermill or chip delivery vehicles. Cyclone diameter: 12 feet. Emission sources: 4004 – 2 – debarking (8,200 cfm); 6003 – relay of sawmill sawdust from cyclone #7 (8,000 cfm); 8001 – hammer mill (22,100 cfm).
UV Flat Line Sanding  Pneumafil #3 (2000)	30,450	Conveying of sander dust from UV flat line sanding which consists of a two head and a three head wide belt sander. Pneumafil Model 11.5-320-8 Unit: 3,200 sq.ft. cloth area: air to cloth 9.5:1 Emission sources: 5007 – UV flatline wide belt sander (9,800 cfm) 5008 – UV flatline wide belt sander (9,800 cfm); 5024 – dove tailers (8,850 cfm); 3501 – carpenter shop (2,000 cfm)
Sawmill/Grinding Room (metal; not wood waste)  Cyclone w/ fabric filter #9	2,700	Grinding operations for sharpening of cutting tools, namely bandsaw cutting blades. Lavcor model 30-11 Unit: cyclone diameter 2' 2", followed by fabric filter with 160 sq.ft. cloth area: 17:1 air to cloth. Emission sources: 3001 – grindings (2,700 cfm)

<b>Equipment Specifications – Wood Waste Handling Operations</b>		
Wood Waste Handling Operation (if known: date installed)	Air Flow (acfm)	Unit Description/Specifications
Main Plant Grinding Room (metal; not wood waste)  Cyclone #1	3,000	Grinding operations for sharpening of cutting tools, namely shaping and molder knives. Unit: 5'6" diameter Emission sources: 4001 – grinder (3,000 cfm).

<b>Equipment Specifications – Miscellaneous Equipment and Operations</b>
Previous permits included a Spray Finishing Operation with (±31) spray booths. <u>This operation ceased on 8/25/2009, and the spray booths were removed in 2011.</u>
UV Flatline Rollcoat Finishing Operations: consists of (3) roll coaters utilizing 100% solid UV finishes, (3) UV curing ovens, (2) sanders (noted above) and (1) offline conventional spray booth for ends and edges.
Glue Line Operations (±9) total glue operations: (6) in Glue Panel Dept., (3) in Pre-assembly. All use Poly Vinyl Acetate (PVA) glue.
Dry Kilns (±15) total kilns: (10) drying kilns each with 70,000 board foot capacity and (5) drying kilns each with 40,000 board foot capacity with heat provided by boilers (noted above).

**(B) FACILITY CLASSIFICATION**

The Facility is classified as a source of air contaminants pursuant to Title 10 of the *Vermont Statutes Annotated* ("10 VSA") §555 and §5-401 of the *Vermont Air Pollution Control Regulations* (hereinafter "*Regulations*"). In addition, §5-101 of the *Regulations* defines a *stationary source* as any structure(s), equipment, installation(s), or operation(s), or combination thereof, which emit or may emit any air contaminant, which is located on one or more contiguous or adjacent properties and which is owned or operated by the same person or persons under common control. Based on this definition, all of the equipment, operations, and structures at the Facility are grouped together by the Agency of Natural Resources, Department of Environmental Conservation, Air Quality & Climate Division (hereinafter "Agency") as one stationary air contaminant source for purposes of review under the *Regulations*.

**(C) PRIOR AGENCY ACTIONS/APPROVALS**

The Facility has been issued the following "Permit to Construct" approvals pursuant to 10 VSA §556 and §§5-501 and/or 5-502 of the *Regulations* and the following "Permit to Operate" approvals pursuant to 10 VSA §556a and Subchapter X of the *Regulations*.

Prior Agency Approvals and Actions	
Date of Action	Description of Agency Approval/Action
October 19, 1999	#AP-99-011 – Approval for construction of the UV flatline coating line and use of pre-catalyzed coatings.
November 26, 2001	#AP-01-043 – Amendment of "Permit to Construct" to increase allowed air flow discharge rate of the UV line fabric filter from the existing 23,000 cfm to 30,000 cfm.
May 31, 2006	#AOP-04-005 – Issuance of initial "Permit to Operate," which also included a 10/25 tpy limit on HAPs so the boilers will not, be subject to the Major Source boiler MACT rule. The permit also included changes to dust collection System A and System B.
May 2, 2014	#AOP-10-004 – Renewal of Title V Operating Permit.

## (D) FACILITY PERMIT APPLICABILITY

Pursuant to 10 VSA §556a and Subchapter X of the *Regulations* a Permit to Operate is required for any air contaminant source with allowable emissions of all air contaminants combined of ten (10) tons per year ("tpy") or more or that is otherwise subject to Title 40 *Code of Federal Regulations* ("40 CFR") Part 70.

The Facility currently operates under a Permit to Operate issued on May 2, 2014. The allowable emissions from the Facility are estimated to be greater than ten (10) tpy and emissions of particulate matter (PM/PM<sub>10</sub>), carbon monoxide (CO), and volatile organic compounds (VOC) are estimated to be in excess of the one-hundred (100) tpy threshold (fifty (50) tpy threshold for VOC) for applicability to Title V of the federal Clean Air Act. Therefore, pursuant to §§5-1002, 5-1003, and 5-1005 of the *Regulations* the Facility is classified as a "Subchapter X Major Source" and "Title V Subject Source". In accordance with §5-1009 of the *Regulations*, the agency is issuing the Permit to Operate herein as a renewal of the previous Permit to Operate for the Facility and the Permit herein supersedes all prior Permits for the Facility.

In accordance with 10 VSA §556(e) the Agency has combined the Permit to Construct and the Permit to Operate renewal for this Facility into one combined Permit to Construct and Operate. The allowable emissions for the Facility are summarized below:

Allowable Air Contaminant Emissions (tons/year) <sup>1</sup>					
PM/PM <sub>10</sub> /PM <sub>2.5</sub>	CO	NO <sub>x</sub>	SO <sub>2</sub>	VOCs	HAPs
459	242	<100	81	58	10/25

<sup>1</sup> PM/PM<sub>10</sub>/PM<sub>2.5</sub> – total particulate matter, total particulate matter of 10 micrometers in size or smaller and total particulate matter of 2.5 micrometers in size or smaller, respectively. Unless otherwise specified, all PM is assumed to be PM<sub>2.5</sub>; SO<sub>2</sub> – sulfur dioxide; NO<sub>x</sub> – oxides of nitrogen measured as NO<sub>2</sub> equivalent; CO – carbon monoxide; VOCs – volatile organic compounds; HAPs – hazardous air pollutants as defined in §112 of the federal Clean Air Act.

(E) REVIEW OF CRITERIA POLLUTANT EMISSIONS FOR THE PERMIT TO CONSTRUCT

(a) New Source Review Designation

The Permittee has not proposed any modifications to the Facility in conjunction with the review for this Permit to Operate and therefore is not subject to review under the New Source Review requirements in §5-501 or §5-502 of the *Regulations* at this time.

(b) Most Stringent Emission Rate

Pursuant to §5-502 of the *Regulations*, the owner/operator of each new major stationary source or major modification must apply control technology adequate to achieve the Most Stringent Emission Rate ("MSER") with respect to those air criteria pollutants for which there would be a major or significant actual emissions increase, respectively, but only for those currently proposed physical or operational changes which would contribute to the increased emissions.

The Permittee has not proposed any modifications to the Facility in conjunction with the review for this Permit to Operate and therefore is not subject to review under the MSER requirements in §5-502 of the *Regulations* at this time. In addition, there have been no prior MSER evaluations conducted for any of the previous modifications to the Facility.

(c) Ambient Air Quality Impact Evaluation

An ambient air quality impact evaluation for criteria pollutants is performed to demonstrate whether or not a proposed project will cause or contribute to violations of the national ambient air quality standards and/or significantly deteriorate existing air quality for the regulated criteria pollutants.

The Permittee has not proposed any modifications to the Facility in conjunction with the review for this Permit to Operate and therefore is not subject to an air quality impact analysis under §5-501 of the *Regulations* at this time. In addition, there have been no prior ambient air quality impact evaluations conducted for any of the previous modifications to the Facility.

(F) REVIEW OF CRITERIA POLLUTANT EMISSIONS FOR THE PERMIT TO OPERATE

(a) Applicable Requirements

The operations at the Facility are subject to the following state and federal laws and regulations, the requirements of which are embodied in the conditions of this Permit.

(i) *Vermont Air Pollution Control Regulations:*

<b>Applicable Requirements from the Vermont Air Pollution Control Regulations</b>
Section 5-201 – Prohibition of Open Burning
Section 5-211(1) - Prohibition of Visible Air Contaminants, Installations Constructed Prior to April 30, 1970 - Bigelow Boiler #240 and Wickes Boiler #239.
Section 5-211(2) - Prohibition of Visible Air Contaminants, Installations Constructed Subsequent to April 30, 1970 – Facility wide except the two boilers noted above. All dust collectors themselves or one or more tools ducted to the dust collector are assumed to have been modified since 1970.
Section 5-221(1) - Prohibition of Potentially Polluting Materials in Fuel, Sulfur in Fuel.
Section 5-231(1) - Prohibition of Particulate Matter; Industrial Process Emissions.
Section 5-231(3) - Prohibition of Particulate Matter; Combustion Contaminants.
Section 5-231(4) - Prohibition of Particulate Matter; Fugitive Particulate Matter.
Section 5-241 – Prohibition of Nuisance and Odor.
Section 5-253.8 – Industrial Adhesives.  The Permittee has stated that total VOC emissions from all adhesives, sealants, adhesive primers and sealant primers used at the source are less than the 200 pound per year exemption level of 5-253.8(a)(2)(iii) and thus this regulation is not applicable. The Permittee shall keep monthly records documenting this.
Section 5-253.14 - Control of Volatile Organic Compounds from Solvent Metal Cleaning.
Section 5-253.16 – Wood Furniture Manufacturing. This regulation combines the federal MACT requirements of 40 CFR Part JJ and the Control Techniques Guideline for Wood Furniture Manufacturing.  <i>The Permittee is now limited to less than 25 tons/year of VOC emissions from the wood furniture manufacturing and finishing operations, and this regulation no longer applies to this Facility.</i>
Section 5-402 – Written Reports When Requested.
Section 5-403 – Circumvention.
Subchapter VIII – Registration of Air Contaminant Sources.
Subchapter X – Operating Permits.



(ii) Reasonably Available Control Technology - §5-1010 of the *Regulations*

Pursuant to 10 VSA §556a(d) and §5-1010 of the *Regulations* the Agency may establish and include within any Permit to Operate emission control requirements based on Reasonably Available Control Technology ("RACT"). Based on the Facility's existing levels of emissions and emission controls, the Agency has not imposed any further requirements on this Facility under this authority at this time.

(iii) Existing Air Pollution Control Permit to Construct and/or Operate

The Facility currently operates under the confines of a Permit to Construct issued on May 2, 2014 (#AOP-10-004). The conditions within that existing permit are considered applicable requirements pursuant to §5-1002 of the *Regulations*. The requirements of that permit which are not being modified herein are incorporated into this new combined Permit to Construct and Operate (#AOP-18-029).

(iv) Federal Requirements:

Applicable Requirements from Federal Regulations and the Clean Air Act
<p>40 <i>CFR</i> Part 63, Subpart JJ - National Emission Standards for Wood Furniture Manufacturing Operations: §63.802 Emission limits; §63.803 Work practice Standards; §63.806 Recordkeeping requirements; §63.807 Reporting requirements. Applicable to all facilities engaged in the manufacture of wood furniture and that are major HAP sources.</p> <p><i>The Facility has an enforceable HAP emission limit of 10/25 tons/year and is now an area source for HAPs. This Facility is no longer subject to the requirements of 40 CFR Part 63, Subpart JJ.</i></p>
<p>40 <i>CFR</i> Part 63, Subpart JJJJJJ - National Emission Standards for Hazardous Air Pollutants for Industrial, Commercial and Institutional Boilers. Applies to new and existing fuel oil and solid fuel fired boilers located at area sources (major sources are subject to Subpart DDDDD). Natural gas or propane fired boilers are not subject. The natural gas and propane exemption allows use of backup fuel during periods of gas curtailment, gas supply emergencies, and for periodic testing not to exceed 48 hours during any calendar year. Oil fired hot water boilers less than 1.6 MMBTU/hr are not subject. The rule requires a tune-up for each boiler once every two years, except boilers with oxygen trim and oil boilers less than 5 MMBTU/hr may conduct tune-ups every five years. Existing facilities with any single boiler greater than 10 MMBTU/hr were required to conduct an site wide energy assessment audit to identify potential heat use efficiencies. New boilers greater than 10 MMBTU/hr are subject to PM emission limits. Boilers that commenced construction on or before June 4, 2010 are considered an existing source.</p> <p><i>The boilers at the Facility were constructed before June 4, 2010 and are subject to the existing boiler requirements of this regulation.</i></p> <p><i>Since the Facility is not a major source of HAPs, the Facility is not subject to Subpart DDDDD.</i></p>

### Applicable Requirements from Federal Regulations and the Clean Air Act

40 *CFR* Part 63, Subpart ZZZZ - National Emission Standards for Hazardous Air Pollutants for Reciprocating Internal Combustion Engines. Applies to new engines that commenced construction (installed) on or after June 12, 2006 at area sources of HAPs. Requires such engines to comply with NSPS Subpart IIII or JJJJ, as applicable. Also applies to existing engines that commenced construction (installed) prior to June 12, 2006 at area sources of HAPs. By May 3, 2013 requires non-emergency engines equal and greater than 300 bhp to meet CO emission standards, which may necessitate catalytic controls, and must install closed crankcase ventilation system or equivalent. Non-emergency engines <300 bhp must meet maintenance requirements including changing oil & filter and inspecting, and replacing if necessary, air filter, hoses and belts. Emergency units are subject to maintenance requirements and must install an elapsed hour meter. Emergency engines are unrestricted for actual emergency operation but restricted to 100 hours per year of testing and maintenance. 4Z ULSD requirements vary, however state regulations mandate ULSD across the board.

*Effective February 25, 2019, Vermont has taken delegation of this federal regulation.*

*Subpart ZZZZ applies to the fire pump engine at this Facility. This engine is required to have: routine maintenance per manufacturer's instructions or owner-developed maintenance plan, an hour meter, operating hours recorded, maintenance records maintained, and use ULSD.*

Clean Air Act §§114(a)(3) Inspections, Monitoring and Entry; 502(b) Permit Programs; and 504(a)-(c) Permit Requirements and Conditions; 40 *CFR* Part 64 Compliance Assurance Monitoring; 40 *CFR* Part 70 §§70.6(a)(3)(i)(B) and 70.6(c)(1) State Operating Permit Programs - Permit content. Upon renewal of a Title V Permit to Operate, a facility must comply with enhanced monitoring and compliance assurance monitoring requirements if applicable. the CAM rule applies to each Pollutant Specific Emission Unit (PSEU) at a major source that is required to obtain a part 70 or part 71 permit if the unit satisfies all of the following criteria: **1)** The unit is subject to an emission limitation or standard for the applicable regulated air pollutant other than an emissions limitation or standard that is exempt under §64.2(b)(1) [exempt limitations include emission limitations or standards proposed by the Administrator after November 15, 1990 pursuant to Section 111 or 112 of the Act], **2)** The unit uses a control device to achieve compliance with any such limit or standard; and **3)** The unit has pre-control device emissions of the applicable regulated pollutant that are equal to or greater than 100 percent of the amount, in tons per year, required for a source to be classified as a major source.

*The woodworking operations used to process kiln-dried wood at the Facility are considered to be emission units. These operations have their PM emissions controlled by either fabric filters and/or cyclones, which are subject to PM emission limits. This permit imposes enforceable operating limits on these dust collectors so none of them have potential pre-control emissions of PM<sub>10</sub> or PM<sub>2.5</sub> which exceed 100 tons/yr and therefore are not subject to the CAM requirements.*

40 *CFR* Part 63 Subpart DDDD Plywood and Composite Wood Products. This rule regulates HAP emissions from PCWP facilities that are major sources. Plywood and composite wood products are manufactured by bonding wood material (fibers, particles, strands, etc.) or agricultural fiber, generally with resin under heat and pressure, to form a structural panel or engineered wood product. Plywood and composite wood products manufacturing facilities also include facilities that manufacture dry veneer and lumber kilns located at any facility. Plywood and composite wood products include (but are not limited to) plywood, veneer, particleboard, oriented strand board, hardboard, fiberboard, medium density fiberboard, laminated strand lumber, laminated veneer lumber, wood l-

<b>Applicable Requirements from Federal Regulations and the Clean Air Act</b>
joists, kiln-dried lumber, and glue-laminated beams.
<i>The Facility is not a Major Sources of HAPs so this MACT standard does not apply to this Facility.</i>

(b) Non-Applicable Requirements

Pursuant to §5-1015(a)(14) of the *Regulations*, an owner or operator of a Facility may request a permit shield from specific state or federally enforceable regulations and standards which are not applicable to the source. For previous permits, the Permittee requested a permit shield with respect to several potentially applicable requirements. With the issuance of permit AOP-18-029, the Permittee is no longer requesting a permit shield for 40 *CFR* Part 60 Subparts Db, 40 *CFR* Part 60 Dc, 40 *CFR* Part 63, Subpart DDDDD and the following sections of the Vermont *Air Pollution Control Regulations*: §5-231(2) (a)&(b), §5-241(3), §5-251(1), §5-251(2), §5-252, §5-253.1, §5-253.2, §5-253.3, §5-253.4, §5-253.6, §5-253.7, §5-253.10, §5-253.11, §5-253.13, §5-253.15, and §5-253.20.

(c) Enforceability

This section delineates which permit conditions are federally enforceable and which conditions are state only enforceable. All federal enforceable conditions are subject to federal citizen suit provisions. All conditions of this Permit are enforceable by both state and federal authorities.

(d) Compliance Certification

The Permittee is required by this Permit to certify compliance as part of its annual registration with the Agency pursuant to the requirements of Subchapter X of the *Regulations*. Additionally, this Permit requires the submission of semi-annual reports of monitoring records used to demonstrate compliance with the limitations contained in this Permit.

(G) CONTROL OF HAZARDOUS AIR CONTAMINANTS

Pursuant to §5-261 of the *Regulations*, any stationary source subject to the rule<sup>1</sup> with current or proposed actual emissions of a hazardous air contaminant (HAC) equal to or greater than the respective Action Level (found in Appendix C of the *Regulations*) shall be subject to the Regulation and shall achieve the Hazardous Most Stringent Emission Rate (HMSER) for the respective HAC. HMSER is defined as a rate of emissions which the Secretary, on a case-by-case basis, determines is achievable for a stationary source

<sup>1</sup> APCR §5-261(1)(c)(ii) provides that solid fuel burning equipment (not including incinerators) installed or constructed prior to January 1, 1993, and all fuel burning equipment which combust virgin liquid or gaseous fuel shall not be subject to the requirements of §5-261.

based on the lowest emission rate achieved in practice by such a category of source and considering economic impact and cost. HMSER may be achieved through application of pollution control equipment, production processes or techniques, equipment design, work practices, chemical substitution, or innovative pollution control techniques.

Based on information provided by the Permittee, the Agency does not anticipate the Facility to have regulated emissions of any HAC in excess of an Action Level. Therefore, the Facility is not being reviewed pursuant to §5-261 of the *Regulations* at this time.

Based on the Agency's review of the Facility's application and the above Findings of Fact, the Agency concludes that the Facility, subject to the following Permit conditions, complies with all applicable state and federal air pollution control laws and regulations or is subject to an acceptable schedule of compliance. Therefore, pursuant to 10 V.S.A. §§556 and 556a, as amended, the Agency hereby issues a Permit approving the Facility, as described in the above Findings of Fact, subject to the following:

## **PERMIT CONDITIONS**

### **- Construction and Equipment Specifications -**

- (1) The Permittee shall construct and operate the Facility in accordance with the plans and specifications submitted to the Agency and in accordance with the conditions set forth herein, including the equipment specifications as listed in Findings of Fact (A) or their equivalent as approved by the Agency. [10 V.S.A. §§556(c) and 556a(d)] [§5-409 and 5-501(1) of the *Regulations*]
- (2) Boilers: The Permittee shall control emissions of particulate matter from the Bigelow boiler #240 and the Wickes boiler #239 by installing and operating multiple cyclone fly ash collectors of the specifications indicated in its application, or a similar device capable of achieving equivalent emission reductions if approved in writing by the Agency. The collected fly ash is currently reinjected into the respective boiler but reinjection is not a requirement of this Permit. All elements of these air pollution control systems shall be maintained in good working order at all times and operated in accordance with the manufacturer's operation and maintenance recommendations. Each air pollution control system shall be in operation whenever the respective emission source it serves is in operation. [10 V.S.A. §§556(c) and 556a(d)] [§5-1015(a)(1) of the *Regulations*]
- (3) Wood Waste Dust Collection Systems: The Permittee shall control emissions of particulate matter from the wood waste handling operations with the respective emission control device having the specifications, including total air flow to the device and with regards to fabric filter devices the stated air to cloth ratio, as listed in Findings of Fact (A) or a similar device capable of achieving equivalent emission reductions if approved in writing by the Agency. All elements of these air pollution control systems shall be maintained in good working order at all times and operated in accordance with the manufacturer's operation and maintenance recommendations. Each air pollution control system shall be in operation whenever the respective emission source is in operation. [10 V.S.A. §§556(c) and 556a(d)] [§§5-231 and 5-1015(a)(1), (3) and (4) of the *Regulations*]
- (4) Wood Waste Dust Collection Systems: The Permittee shall equip each fabric filter collector with a pressure drop measurement device which continuously measures and displays the pressure drop across the fabric filter collector (e.g., manometer or magnehelic). All elements of these fabric filters, including their pressure drop measurement device, shall be maintained in good working order at all times and shall be operated in accordance with the manufacturer's operation and maintenance recommendations. The Permittee shall use the pressure drop measurement device to

maintain the pressure drop across each fabric filter within acceptable ranges as specified by the manufacturer. Failures due to harsh weather conditions not reasonably preventable by the Permittee shall not be considered a violation of the Permit. [10 V.S.A. §§556(c) and 556a(d)] [§§5-231 and 5-1015(a)(1), (3) and (4) of the *Regulations*]

- (5) Spray Booth: The Permittee shall equip the spray booth with filters designed to effectively capture and control a minimum of ninety-five (95) percent of the overspray solids in the exhaust from the spray finishing operations. [10 V.S.A. §§556(c) and 556a(d)] [§§5-261(3) and 5-1015(a)(1) of the *Regulations*]
- (6) Stack Heights: The exhaust gases from the Bigelow Boiler #240 and the Wickes Boiler #239 shall be vented vertically through a stack or stacks which extend a minimum of seventy-nine (79) feet above the stack base grade elevation. The stack shall not be equipped with any device that may obstruct the upward discharge of the exhaust gases such as a fixed raincap. [10 V.S.A. §§556(c) and 556a(d)] [§5-406 of the *Regulations*]

For all other non-fugitive emission points at the Facility, the Agency recommends that they each be exhausted vertically through a stack(s) which extend a minimum of four (4) feet above the roof where the stack penetrates the roof and that they not be equipped with any device that may obstruct the upward discharge of the exhaust gases such as a fixed rain cap of a type that has not been approved by the Agency. The Agency may require the Permittee to increase the stack height, remove a rain cap, or conduct a dispersion analysis to verify compliance with ambient air quality standards for any stack at the Facility if, in the judgment of the Agency, adequate dispersion cannot be maintained at the current stack configuration. Adequacy may in part be based on the actual emission rate of air contaminants, the characteristics of the current stack configuration, or inspections of the Facility that indicate poor dispersion or that confirm significant visible emissions or nuisance or odor beyond the property line. [10 V.S.A. §§556(c) and 556a(d)] [§5-406 of the *Regulations*]

#### - Operational Limitations -

- (7) Dust collector annual operating hour limitations. The following dust collectors are prohibited from operation more than the follow hourly limits, based on a calendar year:
  - (a) Pneumafil #3: 5,000 hours/year
  - (b) Pneumafil #4: 5,000 hours/year
  - (c) MAC #1: 5,000 hours/year
  - (d) MAC #2: 3,175 hours/year

[10 V.S.A. §§556(c) and 556a(d)] [§5-1015(a)(3) and (4) of the *Regulations*] [40 CFR Part 64]

- (8) In order to maintain emissions of nitrogen oxides (NO<sub>x</sub>) below the one hundred (100) tons per year threshold of §5-251(2), the Permittee shall not burn fuel in all boilers combined located at its Facility in quantities greater than the following limit during any rolling twelve (12) consecutive calendar month period:

$$0.020 * X + 1.94 * Y < 200,000$$

where:

X = quantity of No.2 and No.4 fuel oil burned in units of gallons;

Y = quantity of wood fuel burned in units of tons (as fired, including moisture).

The NO<sub>x</sub> emission rates of 1.94 lbs per ton of wood in the above formula may be revised by the Agency based on the results of any stack emission testing on the Facility boilers or other credible emission data as approved by the Agency. [10 V.S.A. §§556(c) and 556a(d)] [§5-251(2) of the *Regulations*]

- (9) Only No. 4 fuel oil or lighter grade fuel oils may be used as oil fuel in the Bigelow Boiler #232 and the Cleaver-Brooks Boiler #238 as well as the Wickes Boiler #239, which also is capable of combusting wood fuel, unless the Permittee obtains prior written approval from the Agency to use another type of fuel.

Commencing on July 1, 2018, the sulfur content of No.2 and lighter distillate oils shall not exceed 0.0015 percent by weight.

Commencing on July 1, 2018, the sulfur content of No.4 residual oil fuel oil shall not exceed 0.25 percent by weight. [10 V.S.A. §§556(c) and 556a(d)] [§§5-221(1)(a) and 5-1015(a)(1) of the *Regulations*]

- (10) The Permittee shall operate the Bigelow and Wickes wood fired boilers at optimum combustion efficiency by, at a minimum, ensuring the proper amounts of combustion air are continuously provided to the boilers and by operating the boilers in accordance with the O&M Plan required by this Permit. The Permittee shall also assure that at least one employee who has received instruction in the proper operation and monitoring of the boilers to achieve optimum combustion efficiency is present or on call whenever one or more of the wood fired boilers are in operation. [10 V.S.A. §§556(c) and 556a(d)] [§5-1015(a)(3) and (4) of the *Regulations*]
- (11) Wood: Only natural wood as defined in the *Regulations*, as well as sawdust or other wood waste generated by wood processing operations, may be used as fuel in the wood fuel burning equipment without the prior written approval of the Agency. In addition, the wood fuel burning equipment shall only be used when there is a need for space or process heat, including steam for the steam electric turbine, and shall not be used as an *incinerator* where the primary purpose is the reduction in volume and/or weight of an unwanted material. [10 V.S.A. §§556(c) and 556a(d)] [§§5-101, 5-231(2) and 5-1015(a)(1) of the *Regulations*]

- (12) In accordance with 40 *CFR* Part 63 Subpart JJJJJJ (National Emission Standards for Hazardous Air Pollutants: Industrial, Commercial and Institutional Boilers at area sources), the Permittee shall comply with the following requirements, as applicable, for coal, oil and wood fired boilers as well as all other applicable requirements of this regulation.
- (a) Biennial tune-ups of the boiler(s) as required by 40 *CFR* §63.11223. Subsequent tune-ups must be completed no later than 25 months after the prior tune-up. The last recorded tune-ups for the wood boilers were during March and August 2018.
  - (b) A one-time energy assessment of the boilers as well as any required energy use systems at the Facility as required by 40 *CFR* §63.11201(b).
  - (c) Notification, reporting and recordkeeping requirements as specified in §63.11225. This includes:
    - (i) §63.11225(a)(2): Initial Notification:
      - a. For boilers installed prior to June 4, 2010 the initial notification must be sent to the EPA no later than January 20, 2014. The facility submitted the initial notification on 9/13/2011.
    - (ii) §63.11225(a)(4): Notification of Compliance Status:
      - a. Notification of the initial tune-up of the boiler must be submitted no later than 120 days after the initial tune-up compliance date of March 21, 2014. The initial tune-ups were conducted March 4, 2014 and the notifications were submitted during June, 2014
      - b. Notification of the completion of the energy assessment must be submitted no later than July 19, 2014. The energy assessment was submitted in June 2014
    - (iii) §63.11225(b): Annual Compliance Certification:
      - a. By March 1 of each year, prepare, and submit to the delegated authority upon request, an annual compliance certification report for the previous calendar year. For boilers that are subject only to a requirement to conduct a biennial or 5-year tune-up and are not subject to emission limits or operating limits, you may prepare only a biennial or 5-year compliance report.

[40 *CFR* Part 63 Subpart JJJJJJ] [40 *CFR* Part 63]

- (13) Stationary and Non-Road Diesel Engines Fuel Specifications: Only fuel oils meeting the requirements of ultra-low sulfur diesel or distillate (ULSD) with a maximum sulfur content of 0.0015 percent by weight (15 ppm) may be used in the Detroit Diesel powered fire pump, or any other stationary and non-road (portable) diesel engine powered equipment operated at the Facility, including, materials handling equipment. [10 V.S.A. §§556(c) and 556a(d)] [§§5-221(1)(a), 5-501 and 5-1015(a)(1) of the *Regulations*]



- (14) Stationary Diesel Engines: The Permittee shall not install or operate a stationary reciprocating internal combustion engine, as defined in the *Regulations*, unless the engine complies with §5-271 of the *Regulations* as may be applicable as well as any federal regulations including 40 *CFR* Part 60 Subpart IIII and 40 *CFR* Part 63 Subpart ZZZZ, as may be applicable. All engines, including emergency engines, installed on or after July 1, 2007 must comply with the applicable emission standards (Tier 2) of §5-271 immediately upon installation. Installation of any size engine, even those below 300 bhp, may still require approval from the Agency in the form of an amended permit prior to installation. [10 V.S.A. §§556(c) and 556a(d)] [§§5-271 and 5-501 of the *Regulations*]

- (15) Stationary Emergency Diesel Engines: Stationary emergency diesel engines, including those specified as such in Finding of Fact (A), shall be used only for emergency purposes and up to 100 hours per year for routine testing and maintenance. Emergency purposes include periods of time when:

- (a) The usual source of power, heat or lighting is temporarily unavailable due to reasons beyond the reasonable control of the owner/operator;
- (b) A fire or flood makes it necessary to pump water to minimize property damage.

In the event the Permittee must take action to restore the normal power source, the Permittee must take such action in a reasonable period of time. Emergency engines shall not be operated as part of any other ISO or utility peaking or load shedding activities without the approval of the Agency. The definition of emergency use for applicability to federal regulations NSPS Subpart IIII and NESHAP Subpart ZZZZ may be different and the Permittee should consult those regulations directly for applicability to those respective regulations. [10 V.S.A. §§556(c) and 556a(d)] [§§5-401(6)(c) and 5-501 of the *Regulations*]

- (16) Open Burning: Open burning is prohibited except as provided for in §5-202 of the *Regulations*. Prior to conducting open burning of any material, other than leaves, brush, or tree cuttings from normal grounds maintenance, the Permittee shall contact the Air Pollution Control Officer and obtain approval for such burning, if required. [10 V.S.A. §§556(c) and 556a(d)] [§5-202 of the *Regulations*]

**- Emission Limitations -**

- (17) Particulate Matter [Boilers]: Emissions of particulate matter from the Facility boilers shall not exceed the following limits:

<b>Particulate Matter Emission Limitations</b>		
Boiler	Emission Limitations	
	gr/dscf or lbs/MMBTU <sup>1</sup>	lbs/hour <sup>2</sup>
Bigelow #240	0.45 gr/dscf	--
Wickes #239	0.45 gr/dscf wood <sup>3</sup> 0.33 lbs/MMBTU oil <sup>3</sup>	-- 8.2 oil
Bigelow #232	0.37 lbs/MMBTU	7.2
Cleaver-Brooks #238	0.35 lbs/MMBTU	7.4
Dravo Furnace	0.5 lbs/MMBTU	1.3

<sup>1</sup> gr/dscf equals grains of pollutant emitted per dry standard cubic foot of undiluted exhaust gas corrected to 12% carbon dioxide and lbs/MMBTU equals pounds of pollutant emitted per million British Thermal Units of heat input.

<sup>2</sup> lbs/hour equals pounds of pollutant emitted per hour based on the MMBTU/hr rating of the unit as given in Findings of Fact A.

<sup>3</sup> The wood emission limit shall apply when wood comprises 50% or more of the heat input to the boiler and the oil emission limit shall apply when oil comprises greater than 50% of the heat input to the boiler.

Any emission testing conducted to demonstrate compliance with the above emission limits shall be performed in accordance with the methods noted above and found in 40 *CFR* Part 60, Appendix A and Part 51, Appendix M, or an alternative method which has been published in 40 *CFR*, provided the federally approved alternative method has been accepted in writing by the Agency before testing. [10 V.S.A. §§556(c) and 556a(d)] [§§5-231(3) and 5-404 of the *Regulations*]

- (18) Particulate Matter [Wood Waste Dust Collection Systems]: Emissions of particulate matter from the Facility wood waste dust collection systems shall not exceed the following limits:

Particulate Matter Emission Limitations		
Unit Make (or equivalent)	Emission Limitations	
	gr/dscf <sup>1</sup>	lbs/hour <sup>2</sup>
System A – MAC #2	0.02	8.6 and 3,175 hours per year max operation
System A – Pneumafil #1	0.06	18.1
System A – Cyclone #5	0.06	29.9
System B – MAC #1	0.02	6.7 and 5,000 hours per year max operation
System B – Pneumafil #4	0.02	8.4 and 5,000 hours per year max operation
UV Flat Line Sander Pneumafil #3	0.02	5.2 and 5,000 hours per year max operation
Sawmill/Grinding Room Fabric Filter #9	0.06	1.4
Main Plant Grinding Room Cyclone #1	0.06	1.5

<sup>1</sup> gr/dscf equals grains of pollutant emitted per dry standard cubic foot of undiluted exhaust gas.

<sup>2</sup> lbs/hour equals pounds of pollutant emitted per hour based on the air flow rates as given in Findings of Fact A.

Any emission testing conducted to demonstrate compliance with the above emission limits shall be performed in accordance with Title 40 *Code of Federal Regulations* Part 60, Appendix A, Reference Method 5 for filterable PM or an alternative method which has been published in 40 *CFR*, provided the federally approved alternative method has been accepted in writing by the Agency before testing. [10 V.S.A. §§556(c) and 556a(d)] [§§5-231(1)(b) and 5-404 of the *Regulations*] [application for #AP-01-043, #AOP-04-005, and #AOP-18-029]

- (19) Visible Emissions [Specific Installations prior to April 30, 1970]: Emissions of visible air contaminants from the Bigelow Boiler #240 and the Wickes Boiler #239 and any other installation at the Facility installed prior to April 30, 1970 shall not exceed forty (40) percent opacity for more than a period or periods aggregating six (6) minutes in any hour and at no time shall visible emissions exceed sixty (60) percent opacity.

Any emission testing conducted to demonstrate compliance with the above emission limits shall be performed in accordance with 40 *CFR* Part 51, Appendix M, Methods 203B and 203C, respectively, or equivalent methods approved in writing by the Agency. [§§5-211(1), 5-211(3) and 5-404 of the *Regulations*]

- (20) Visible Emissions [Facility Wide]: Emissions of visible air contaminants from any installation at the Facility, except where otherwise noted in this Permit, shall not exceed twenty (20) percent opacity for more than a period or periods aggregating six (6) minutes in any hour and at no time shall visible emissions exceed sixty (60) percent opacity.

Any emission testing conducted to demonstrate compliance with the above emission limits shall be performed in accordance with 40 *CFR* Part 51, Appendix M, Methods 203B and 203C, respectively, or equivalent methods approved in writing by the Agency. [§§5-211(2), 5-211(3) and 5-404 of the *Regulations*]

- (21) Fugitive Emissions: The Permittee shall take reasonable precautions at all times to control and minimize emissions of fugitive particulate matter from the operations at the Facility. This shall include but not be limited to the following:

- (a) Taking precautions to prevent fugitive particulate matter (i.e. wood dust) during the handling and disposal of the wood waste material collected from the wood processing operations. Any drop loading of wood waste material from a silo, storage bin or similar unit into a receiving vehicle or trailer for subsequent removal shall be done in an area enclosed on at least three sides in order to prevent wind currents from re-entraining the material or its equivalent. The Agency may require additional dust control measures to ensure compliance, such as requiring an enclosed chute or stocking be used to limit the drop distance, based on Agency inspections of the actual operations; and
- (b) The use of wet suppression, calcium chloride applications or other dust control measures as necessary to minimize fugitive dust from all unpaved roads and traffic areas at the Facility;

[10 V.S.A. §§556(c) and 556a(d)] [§5-231(4) of the *Regulations*]

- (22) Fugitive VOC Emissions: The Permittee shall take reasonable precautions at all times to control and minimize emissions of fugitive volatile organic compounds from the operations at the Facility. This shall include but not be limited to the following:

- (a) Coating and solvent containers containing VOC materials shall be covered when not in use;
- (b) All paint spray gun cleaning must be done so that an atomized mist or spray of gun cleaning solvent and paint residue is not created outside of a container that collects used gun cleaning solvent. Spray gun cleaning may be done with, for example, hand cleaning of parts of the disassembled gun in a container of solvent, by flushing solvent through the gun without atomizing the solvent and paint residue, or by using a fully enclosed spray gun washer. Solvent containing VOC materials used for gun/line cleaning shall be collected into a normally closed container; and
- (c) A strippable spray booth coating shall be utilized in lieu of solvent cleaning of spray booths where feasible. The maximum VOC content of the strippable coating shall not exceed 0.8 lbs VOC/lbs solids.

[10 V.S.A. §§556(c) and 556a(d)] [§5-1015(a)(1) of the *Regulations*]

- (23) Volatile Organic Compounds – Wood Furniture Manufacturing and Finishing: Emissions of volatile organic compounds from the Facility's wood furniture manufacturing and finishing operations shall not equal or exceed twenty five (25) tons per year based on any rolling twelve (12) consecutive calendar month period. [10 V.S.A. §§556(c) and 556a(d)] [§§5-253.16 and 5-502 of the *Regulations*]
- (24) Volatile Organic Compounds – Facility Wide: Emissions of volatile organic compounds from all the Facility's operations shall not equal or exceed fifty eight (58) tons per year based on any rolling twelve (12) consecutive calendar month period. [10 V.S.A. §§556(c) and 556a(d)] [§5-502 of the *Regulations*]
- (25) Hazardous Air Pollutants: Emission of federally regulated hazardous air pollutants (HAPs) from the Facility shall not equal or exceed ten (10) tons per year of any single HAP or twenty-five (25) tons per year of all HAPs combined per year based on any rolling twelve (12) consecutive calendar month period. [40 *CFR* Part 63]
- (26) Hazardous Air Contaminants: Emissions of state hazardous air contaminants (HACs) from the applicable operations at the Facility shall not equal or exceed their respective Action Level (found in Appendix C of the *Regulations*) unless the Agency has reviewed and approved such HAC emission under §5-261(2) of the *Regulations*. [10 V.S.A. §§556(c) and 556a(d)] [§5-261 of the *Regulations*]
- (27) Nuisance and Odor: The Permittee shall not discharge, cause, suffer, allow, or permit from any source whatsoever such quantities of air contaminants, or odors beyond the property line of a premises, which will cause injury, detriment, nuisance or annoyance to any considerable number of people or to the public or which endangers the comfort, repose, health or safety of any such persons or the public or which causes or has a natural tendency to cause injury or damage to business or property. [10 V.S.A. §§556(c) and 556a(d)] [§5-241(1) of the *Regulations*]

**- Compliance Testing and Monitoring –**

- (28) The Permittee shall perform emission testing on the Bigelow and Wickes wood fired boilers for NO<sub>x</sub>, PM, and Combustion Efficiency and shall furnish the Agency with a written report of the results within thirty (30) days after the completion of the testing. The conditions in this section of the Permit are not to be considered continuous air monitoring requirements. The emission testing shall be performed at a minimum once every five years, with the next test due in 2021. The emission testing shall be performed in order to demonstrate compliance with the emission limitations specified within the conditions of this Permit. At least thirty (30) days prior to performing the emission testing required above, the Permittee shall submit to the Agency a pretest report prepared in accordance with the Agency's "Source Emission Testing Guidelines". [§§5-402, 5-404(1), 5-405(1) and 5-1015(a)(3) and (4) of the *Regulations*]
- (29) Boiler O&M: The Permittee shall continue to implement an operation and maintenance (O&M) plan for its boilers. The purpose of said plan shall be to ensure that the boilers remain in continuous compliance with the applicable requirements contained in this Permit. The O&M plan shall include, but not be limited to:

- (a) Methods for determining the combustion efficiency trigger level for each affected wood fired boiler. The trigger level shall be based on a minimum of twelve (12) combustion efficiency tests performed during operating conditions representative of the typical operating range of the respective boiler. Two trigger levels may be established by the Permittee to represent winter and summer conditions. The initial combustion efficiency trigger level shall be established within 180 days after the issuance of this Permit. The trigger level may be established by the Permittee using hand held instrumentation or other methods acceptable to the agency;
- (b) The procedures to be followed to increase combustion efficiency whenever the combustion efficiency is determined to be less than the trigger level. The procedures may be in the format of a troubleshooting guide for operators;
- (c) Descriptions of routine maintenance and inspection procedures;
- (d) Provisions for maintaining records of maintenance and inspection procedures, including both routine activities and actions taken in response to observations of low combustion efficiency; and
- (e) Provisions for calibration and maintenance of any testing instruments and/or equipment used to measure the concentrations of CO<sub>2</sub> and CO in the boiler exhaust gases. Oxygen sensors or other methods for testing may be used if acceptable to the Agency and if considered to be appropriate and adequate methods for use in the wood burning combustion systems.

Although not considered continuous air monitoring, failure to take reasonable steps in accordance with said plan to increase the combustion efficiency once it has fallen below the trigger level, may be considered credible evidence of an exceedance of the opacity and particulate emission limits set forth in this Permit. However, exceeding the trigger level itself would not be considered a violation. Said O&M plan shall be present at the Facility at all times and shall be made available to representatives of the Agency upon request. The Permittee shall revise this plan at the Agency's request or on its own motion based on operating experience, or to reflect equipment or operational changes. All O&M Plan modifications are subject to Agency review and shall not be implemented until the Permittee has received written approval from the Agency. [10 V.S.A. §§556(c) and 556a(d)] [§§5-405(1) and 5-1015(a)(4) of the *Regulations*]

- (30) General O&M [Wood Waste Dust Collection System Fabric Filters]: The Permittee shall continue to implement an operation and maintenance plan for the wood waste dust collection system fabric filters. The purpose of said plan shall be to ensure that the fabric filters remain in continuous compliance with the conditions of this Permit. The operation and maintenance plan shall include, but not be limited to, a description of routine maintenance and inspection procedures, provisions for maintaining records of such maintenance and inspections as well as findings of those inspections and any corrective actions which were taken. Said operation and maintenance plan shall be present at the facility at all times and shall be made available to representatives of the Agency upon request. The Permittee shall revise this plan at the Agency's request or on its own motion to reflect equipment or operational changes. [10 V.S.A. §§556(c) and 556a(d)] [§5-405(1) of the *Regulations*]

- (31) **Boiler Combustion Efficiency:** The Permittee shall perform periodic combustion efficiency testing of the Bigelow Boiler #240 and the Wickes Boiler #239 by measuring the concentrations of carbon dioxide ("CO<sub>2</sub>") and carbon monoxide ("CO") in the exhaust gases or other Agency approved parameters. Said testing shall be performed at least once every two months. The Permittee shall perform said testing of the CO<sub>2</sub> and CO concentrations, or other Agency approved parameters, using methods which have been approved in writing in advance by the Agency. The CO<sub>2</sub> and CO concentrations may be on a wet or dry basis as long as they are both on the same basis. Any instruments and/or equipment used for said testing shall be calibrated and maintained in accordance with the manufacturer's recommendations. Each time testing of the boiler exhaust gas is conducted to determine the concentrations of CO<sub>2</sub> and CO, the Permittee shall calculate and record the combustion efficiency of the boiler using methods approved in writing in advance by the Agency. For the purposes of this Permit, combustion efficiency shall be determined using the following equation, unless an alternative method is approved by the Agency:

$$CE (\%) = \frac{CO_2}{CO_2 + CO} \times 100$$

Where;

CE = Combustion efficiency,

CO<sub>2</sub> = % by volume of carbon dioxide in the flue gas, and

CO = % by volume of carbon monoxide in the flue gas.

[§§5-404(1), 5-405(1) and 5-1015(a)(3) and (4) of the *Regulations*]

### - Record Keeping and Reporting -

- (32) **Records of Fuel Use:** The Permittee shall maintain records of the total quantity of wood fuel, and fuel oil consumed in the combined boilers each month. The quantity of wood fuel shall be recorded in units of tons as fired, including the weight of moisture. The quantity No.2 and No.4 fuel oils shall also be recorded separately in units of gallons of No.2 fuel oil and gallons of No.4 fuel oil. At the beginning of each month, the Permittee shall calculate the total quantity of each fuel consumed in the boilers during the previous twelve (12) consecutive month period. [10 V.S.A. §§556(c) and 556a(d)] [§§5-405(1) and 5-1015(a)(3) and (4) of the *Regulations*]
- (33) **Records of NO<sub>x</sub> Emissions:** Based on the above fuel usage records and the equation contained in condition (7) of this Permit, the Permittee shall calculate and record at the beginning of each month the quantity of NO<sub>x</sub> emitted from the Facility boilers for the previous twelve (12) consecutive calendar month period. [10 V.S.A. §§556(c) and 556a(d)] [§§5-405(1) and 5-1015(a)(3) and (4) of the *Regulations*]
- (34) **Records of Combustion Efficiency Testing:** The Permittee shall maintain records of the results of the combustion efficiency testing conducted on the respective boilers. These records shall at a minimum include the test date, identification of the boiler tested, a measurement of the load on the boiler (such as fuel feed rate or steam production rate),

the concentrations of oxygen (if available), carbon monoxide and carbon dioxide in the exhaust gas as well as the calculated combustion efficiency. [10 V.S.A. §§556(c) and 556a(d)] [§§5-405(1) and 5-1015(a)(3) and (4) of the *Regulations*]

- (35) Records of Fuel Oil Certifications (boilers): The Permittee shall obtain from the fuel supplier, for each shipment of fuel oil received at the Facility, a certification or invoice stating the sulfur content of the fuel oil. The certification or invoice shall include the name of the fuel oil supplier, date of delivery, fuel type, quantity of fuel oil delivered, and a statement from the fuel oil supplier that the oil complies with the specifications for fuel oil numbers 1 or 2 as defined by the American Society of Testing and Materials in ASTM D396, "Standard Specifications for Fuel Oils" or for deliveries of No.4 oil, a statement as to the sulfur content of the fuel oil in percent sulfur by weight. [10 V.S.A. §§556(c) and 556a(d)] [§5-405(1) of the *Regulations*]
- (36) Records of Adhesive Use: In accordance with 5-253.8 [Industrial Adhesives] of the *Regulations*, the Permittee shall maintain sufficient monthly records demonstrating compliance with the exemption provided by §5-253.8(A)(2)(iii). [10 V.S.A. §§556(c) and 556a(d)] [§5-253.8 and 5-405(1) of the *Regulations*]
- (37) Semi-Annual Periodic Monitoring Reports: Within thirty (30) days after July 1 and January 1 of each year, the Permittee shall submit to the Agency a report, signed by a responsible official of the Facility, containing the following information regarding the preceding six (6) months:
- (a) a summary of the fuel usage records required by this Permit;
  - (b) a summary of the NOx emission calculations as required by this Permit;
  - (c) a summary of the periodic combustion efficiency calculations required by this Permit;
  - (d) a statement of the sulfur content of any and all fuel delivered to the Facility during the reporting period;
- [§§5-402, 5-405(1) and 5-1015(a)(5) of the *Regulations*] [40 CFR Part 70 §70.6(a)(3)(iii)(A)]
- (38) Records of Emergency Generator/Engine Usage (fire pump): The Permittee shall maintain records in a log book, or electronic record system, of all hours of operation of each stationary emergency generator/engine and shall make such records available to the Agency upon request. The records shall include: the dates on which each engine was operated; the number of hours the engine was operated on the respective date, including the starting and ending hours shown on the engine's elapsed hour meter; the purpose of the operation be it emergency, testing or maintenance; and, if the purpose of the operation was for an emergency, the records shall include a brief description of the emergency and its cause. [10 V.S.A. §§556(c) and 556a(d)] [§5-405(1) of the *Regulations*]
- (39) Records: All records shall be retained for a minimum period of five (5) years from the date of record and shall be made available to the Agency upon request. [10 V.S.A. §§556(c) and 556a(d)] [§§5-402, 5-405(1) and 5-1015(a)(7) of the *Regulations*] 40 CFR Part 70.6(a)(3)(ii)(B)]



(40) Records: Records of all required compliance testing shall include the following:

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

[10 V.S.A. §§556(c) and 556a(d)] [§§5-402, 5-405(1) and 5-1015(5) of the *Regulations*] [40 CFR Part 70.6(a)(3)(ii)(A)]

(41) Notification: As required by 40 CFR Part 63 §63.9(j), the Permittee must notify the U.S. EPA within fifteen (15) days regarding any changes in information previously provided to the U.S. EPA under 40 CFR Part 63. On March 29, 1996 and August 27, 1996 the Permittee notified the U.S. EPA that the Beecher Falls facility is subject to the Wood Furniture MACT Standard (Subpart JJ). Upon issuance of this permit the Permittee is no longer subject to 40 CFR Part 63 Subpart JJ. Within 15 days of the issuance of this permit, the Permittee must notify the U.S. EPA that it is no longer subject to Subpart JJ. [10 V.S.A. §§556(c) and 556a(d)] [§§5-402 of the *Regulations*] 40 CFR Part 63 Subpart A §63.9](42) Notification: The Permittee shall notify the Agency in writing within ten (10) days of any violation, of which it is aware, of any requirements of this Permit. This notification shall include, at a minimum, the cause for the violation and corrective action or preventative maintenance taken to correct the violation. [10 V.S.A. §§556(c) and 556a(d)] [§§5-402 and 5-1015(a)(6) of the *Regulations*](43) Notification: The Permittee shall notify the Agency in writing of any proposed physical or operational change at the Facility which may increase the emission rate of any air contaminant to the ambient air regardless of any concurrent emission reductions that may be achieved. This notification requirement includes the proposed installation of any new equipment that is a source of air pollution, including the replacement of an existing permitted air pollution source. If the Agency determines that a permit amendment is required, a new application and the appropriate application fee shall be submitted. The permit amendment shall be obtained prior to commencing any such change except as may otherwise be allowed by the *Regulations*. [10 V.S.A. §§556(c) and 556a(d)] [§§5-402 and 5-501 of the *Regulations*](44) Reporting: Compliance Certification: By February 1st of each year, the Permittee shall submit an annual certification of compliance for the previous calendar year, concurrent with the annual registration data submitted to the Agency, which ascertains and identifies the compliance status of the Facility with respect to:

- (a) Emissions of VOCs from the Facility's wood manufacturing and finishing operations are less than twenty five (25) tons per year;
- (b) Emissions of federal HAPs from the Facility are less than ten (10) tons per year for each individual HAP and less than twenty-five (25) tons per year for total HAPs; and

- (c) Emissions of each regulated state HAC is less than its respective Action Level (found in Appendix C of the Regulations) or the emission of the respective HAC has previously been reviewed and approved by the Agency under §5-261(2) of the Regulations.

[10 V.S.A. §§556(c) and 556a(d)] [§5-402 of the *Regulations*]

- (45) Reporting: Annual Compliance Certification: By February 1st of each year, the Permittee shall submit to the Agency and the U.S. EPA an annual certification of compliance for the previous calendar year which ascertains and identifies the compliance status of the Facility with respect to all terms and conditions of this Permit, including but not limited to the following:

- (a) Identification of each term or condition of the permit that is the basis of the certification;
- (b) The compliance status;
- (c) Whether compliance was continuous or intermittent; and
- (d) The methods used for determining the compliance status of the Facility over the reporting period.
- (e) If necessary, the Permittee also shall identify any other material information that must be included in the certification to comply with section 113(c)(2) of the Act, which prohibits knowingly making a false certification or omitting material information

[10 V.S.A. §§556(c) and 556a(d)] [§114(a)(3) of the CAA] [§§5-402 and 5-1015(a)(11) of the *Regulations*]

- (46) Annual Registration: The Permittee shall calculate the quantity of emissions of air contaminants from the Facility annually. If the Facility emits more than five (5) tons of any and all air contaminants per year or if the Facility performs one or more of the air contaminant emitting operations listed in 5-802(2) of the *Regulations*, the Permittee shall register the source with the Secretary of the Agency (hereinafter "Secretary"), and shall renew such registration annually. Each day of operating a source which is subject to registration without a valid, current registration shall constitute a separate violation and subject the Permittee to civil penalties. The registration process shall follow the procedures set forth in Subchapter VIII of the *Regulations*, including the payment of the annual registration fee on or before May 15 of each year. [10 V.S.A. §§556(c) and 556a(d)] [Subchapter VIII §§5-802, 5-803, 5-807, 5-808 of the *Regulations*]

- (47) All records, notifications and reports that are required to be submitted to the Agency by this Permit shall be submitted to:

Air Quality & Climate Division  
Department of Environmental Conservation  
Agency of Natural Resources  
Davis 2  
One National Life Drive  
Montpelier, Vermont 05620-3802

[10 V.S.A. §§556(c) and 556a(d)] [§5-402 of the *Regulations*]

- (48) All records, notifications and reports that are required to be submitted to the U.S. EPA by this Permit shall be submitted to:

Air Compliance Clerk  
U.S. EPA-New England  
5 Post Office Sq. Suite 100 (OES04-2)  
Boston, MA 02109-3912

[10 V.S.A. §§556(c) and 556a(d)] [§5-402 of the *Regulations*]

**- Standard Permit Conditions -**

- (49) At all times, including periods of startup, shutdown, and malfunction, owners and operators shall, to the extent practicable, maintain and operate any affected facility including associated air pollution control equipment in a manner consistent with good air pollution control practice for minimizing emissions. Determination of whether acceptable operating and maintenance procedures are being used will be based on information available to the Agency which may include, but is not limited to, monitoring results, opacity observations, review of operating and maintenance procedures, and inspection of the source. [10 V.S.A. §§556(c) and (g) and 556a(d)] [40 CFR Part 60.11(d) and 63.6(e)]
- (50) These Permit conditions may be suspended, terminated, modified, or revoked for cause and reissued upon the filing of a written request with the Secretary of the Agency (hereinafter "Secretary") or upon the Secretary's own motion. Any modification shall be granted only with the written approval of the Secretary. If the Secretary finds that modification is appropriate, only the conditions subject to modification shall be re-opened. The filing of a request for modification, revocation and reissuance, or termination, or of a notification of planned changes or anticipated non-compliance does not stay any terms or conditions of this Permit. The Secretary may provide opportunity for public comment on any proposed modification of these conditions. If public comments are solicited, the Secretary shall follow the procedures set forth in 10 V.S.A. §556 and §556a, as amended. [10 V.S.A. §§556(d) and 556a(g)] [§§5-1008(a) and 5-1008(e) of the *Regulations*]
- (51) Cause for reopening, modification, termination and revocation of this Permit includes, but is not limited to:
- (a) Inclusion of additional applicable requirements pursuant to state or federal law;
  - (b) A determination that the permit contains a material mistake or that inaccurate information was used to establish emissions standards or other terms or conditions of the operating permit;
  - (c) A determination that the operating permit must be modified or revoked to ensure compliance with applicable requirements;
  - (d) A determination that the subject source has failed to comply with a permit condition;
  - (e) For Title V subject sources, a determination by U.S. EPA that cause exists to terminate, modify, revoke or reissue an operating permit;
  - (f) Those causes which are stated as grounds for refusal to issue, renew or modify an operating permit under §5-1008(a) of the *Regulations*; or
  - (g) If more than three (3) years remain in the permit term and the source becomes subject to a new applicable requirement.

[10 V.S.A. §§556(c) and 556a(d)] [§5-1008(e)(4) of the *Regulations*]

- (52) The Permittee shall furnish to the Agency, within a reasonable time, any information that the Agency may request in writing to determine whether cause exists to modify, revoke, reissue, or terminate the Permit or to determine compliance with this Permit. Upon request, the Permittee shall also furnish to the Agency copies of records required to be kept by this Permit. [10 V.S.A. §§556(c) and 556a(d)] [§5-402 of the *Regulations*] [40 CFR Part 70 §70.6(a)(6)(v)]

- (53) By acceptance of this Permit, the Permittee agrees to allow representatives of the State of Vermont access to the properties covered by the Permit, at reasonable times, to ascertain compliance with Vermont environmental and health statutes and regulations and with this Permit. The Permittee also agrees to give the Agency access to review and copy any records required to be maintained by this Permit, and to sample or monitor at reasonable times to ascertain compliance with this Permit. [10 V.S.A. §§556(c), 556a(d) and 557] [ §§5-402, 5-404, and 5-1015(a)(10) of the *Regulations*]
- (54) All data, plans, specifications, analyses and other information submitted or caused to be submitted to the Agency as part of the application for this Permit or an amendment to this Permit shall be complete and truthful and, for Title V permit applications, certified by a responsible official whose designation has been approved by the Secretary. Any such submission which is false or misleading shall be sufficient grounds for denial or revocation of this Permit, and may result in a fine and/or imprisonment under the authority of Vermont statutes. [10 V.S.A. §§556(c) and 556a(d)] [ §§5-409 and 5-1006(f) of the *Regulations*]
- (55) For the purpose of establishing whether or not a person has violated or is in violation of any condition of this Permit, nothing in this Permit shall preclude the use, including the exclusive use, of any credible evidence or information relevant to whether a source would have been in compliance with applicable requirements if the appropriate performance or compliance test or procedure had been performed. [10 V.S.A. §§556(c) and 556a(d)]
- (56) Any permit noncompliance could constitute a violation of the federal Clean Air Act and is grounds for enforcement action; for permit termination, revocation and reissuance, or modification; or for denial of a permit renewal application. [10 V.S.A. §§556(c) and 556a(d)] [ §§5-1008(a) and 5-1008(e) of the *Regulations*]
- (57) It shall not be a defense for the Permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity to maintain compliance with the conditions of this Permit. [10 V.S.A. §§556(c) and 556a(d)]
- (58) No person shall build, erect, install or use any article, machine, equipment or other contrivances, the use of which, without resulting in a reduction in the total release of air contaminants to the atmosphere, reduces or conceals an emission which otherwise would constitute a violation of these *Regulations*. [10 V.S.A. §§556(c) and 556a(d)] [ §5-403 of the *Regulations*]
- (59) The provisions of this Permit are severable. If any provision of this Permit, or its application to any person or circumstances is held invalid, illegal, or unenforceable by a court of competent jurisdiction, the invalidity shall not apply to any other portion of this Permit which can be given effect without the invalid provision or application thereof. [10 V.S.A. §§556(c) and 556a(d)]
- (60) This Permit does not convey any property rights of any sort or any exclusive privilege, nor does it authorize any injury to private property or any invasion of personal rights. [10 V.S.A. §§556(c) and 556a(d)]
- (61) All subsequent owners and/or operators of this Facility must request an amendment and transfer of this Permit prior to commencing any operations covered by this Permit. All subsequent owners and/or operators shall submit to the Agency as part of the request for

amendment all such information the Agency deems necessary to establish legal ownership and/or interest in the property and all such information the Agency deems necessary to ensure the new owners and/or operators will construct and operate the Facility in compliance with the *Regulations* and this Permit. The terms and conditions of this Permit shall remain in full force and effect after submittal of the request for amendment and until the issuance of an amended Permit or denial. Should the Secretary deny the request, the new owner and/or operator must take whatever action is necessary to comply with the denial. [10 V.S.A. §§556 and 556a] [§§5-501, 5-1004, and 5-1013(a) of the *Regulations*]

- (62) Renewable Energy Projects – Right to Appeal to Public Service Board. If this decision relates to a renewable energy plant for which a certificate of public good is required under 30 V.S.A. §248, any appeal of this decision must be filed with the Vermont Public Service Board pursuant to 10 V.S.A. §8506. This section does not apply to a facility that is subject to 10 V.S.A. §1004 (dams before the Federal Energy Regulatory Commission), 10 V.S.A. §1006 (certification of hydroelectric projects) or 10 V.S.A. Chapter 43 (dams). Any appeal under this section must be filed with the Clerk of the Public Service Board within 30 days of the date of this decision; the appellant must file with the Clerk an original and six copies of its appeal. The appellant shall provide notice of the filing of an appeal in accordance with 10 V.S.A. 8504(c)(2), and shall also serve a copy of the Notice of Appeal on the Vermont Department of Public Service. For further information, see the Rules and General Orders of the Public Service Board, available on line at [www.psb.vermont.gov](http://www.psb.vermont.gov). The address for the Public Service Board is 112 State Street, Montpelier, Vermont, 05620-2701 (Tel. # 802-828-2358). [10 V.S.A. §§556(c) and 556a(d)]
- (63) All Other Projects – Right to Appeal to Environmental Court. Pursuant to 10 V.S.A. Chapter 220, any appeal of this decision must be filed with the clerk of the Environmental Court within 30 days of the date of the decision. The Notice of Appeal must specify the parties taking the appeal and the statutory provision under which each party claims party status; must designate the act or decision appealed from; must name the Environmental Court; and must be signed by the appellant or their attorney. In addition, the appeal must give the address or location and description of the property, project or facility with which the appeal is concerned and the name of the applicant or any permit involved in the appeal. The appellant must also serve a copy of the Notice of Appeal in accordance with Rule 5(b)(4)(B) of the Vermont Rules for Environmental Court Proceedings. For further information, see the Vermont Rules for Environmental Court Proceedings, available on line at [www.vermontjudiciary.org](http://www.vermontjudiciary.org). The address for the Environmental Court is 2418 Airport Road, Suite 1, Barre, VT 05641 (Tel. # 802-828-1660). [10 V.S.A. §§556(c) and 556a(d)]
- (64) Conditions (1), (13) – (15), (23), (41) and (59) are derived from the new source review requirements of Subchapter V of the *Regulations*. With the exception of the cited new source review conditions, this Operating Permit shall expire as indicated on the cover page to this Permit. The Permittee shall submit to the Agency a complete application for renewal of the Operating Permit at least six (6) months before the expiration of the Operating Permit. If a timely and administratively complete application for an operating permit renewal is submitted to the Secretary, but the Secretary has failed to issue or deny such renewal before the end of the term of this Operating Permit, then the Permittee may continue to operate the subject source and all terms and conditions of this Operating Permit shall remain in effect until the Secretary has issued or denied the operating permit

renewal. However, this Operating Permit shall automatically expire if, subsequent to the renewal application being determined or deemed administratively complete pursuant to §5-1006 of the *Regulations*, the Permittee fails to submit any additional information required by the Secretary as well as information pertaining to changes to the Facility within thirty (30) days or such other period as specified in writing by the Secretary. [10 V.S.A. §§556(c) and 556a(d)] [§§5-1011 and 5-1012(a) of the *Regulations*] [§§5-1005(c) and 5-1012 of the *Regulations*]

- (65) The conditions of this Permit as set forth above supersede all conditions contained in all prior Permits issued by the Agency to the Permittee for this Facility. [10 V.S.A. §§556(c) and 556a(d)]

The Agency's issuance of this Air Pollution Control Permit relies upon the data, judgment, and other information supplied by the Permittee. The Agency makes no assurances that the air contaminant source approved herein will meet performance objectives or vendor guarantees supplied to the source Permittee. It is the sole responsibility of the Permittee to operate the source in accordance with the conditions herein and with all applicable state and federal standards and regulations.

Permit issued and effective this 5<sup>th</sup> day of September, 2019.

Permit issuance authorized by:  
Agency of Natural Resources  
Emily Boedecker, Commissioner  
Department of Environmental Conservation

By: Heidi C. Hales  
Heidi C. Hales, Director  
Air Quality & Climate Division

sks  
Y:AP Admin\StationaryFacilities\Ethan Allen Operations Inc\Beecher Falls