VERMONT AGENCY OF NATURAL RESOURCES
Department of Environmental Conservation
Air Pollution Control Division

TECHNICAL ANALYSIS OF AN AIR CONTAMINANT SOURCE FOR A PERMIT TO OPERATE

#AOP-00-024
DEC# SJ75-0002

November 6, 2000
(Revised: December 18, 2000)

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APPLICANT:	EHV Weidmann Industries, Incorporated P.O. Box 903 St. Johnsbury, VT 05819-0903
SOURCE:	Transformer Board Manufacturing and Assembly Facility EHV Weidmann Industries, Incorporated One Gordon Mills Way St. Johnsbury, VT 05819
RESPONSIBLE OFFICIAL:	Kenneth R. Linsley, VP of Manufacturing EHV Weidmann Industries, Inc.
APPLICATION CONTACT:	Larry Corrow *Environmental & Safety Director* EHV Weidmann Industries, Inc. Tel. - (802) 751-3407 Fax - (802) 751-3431
	Michael F. Morin, P.E. *Consultant* Neill and Gunter, Inc. 482 Payne Road Scarborough, ME 04103 Tel. - Fax -
COUNTY:	Caledonia
AREA DESIGNATION:	Attainment for PM_{10}, SO_2, NO_x, CO, and Pb Unclassified for O_3
UTM COORDINATES:	$^{7}37^{275}$ m E, $^{49}29^{725}$ m N, Zone 18 (Center of Main Manufacturing Building)

1.0 INTRODUCTION

On October 19, 2000, EHV Weidmann Industries, Incorporated (hereinafter "EHV Weidmann" also referred to herein as "Owner/Operator") submitted an application and $585.00 base application review fee to the Agency of Natural Resources, Department of Environmental Conservation, Air Pollution Control Division ("Agency"). EHV Weidmann's application requested an amendment of its existing Air Pollution Control Permit to Construct and Operate (#AOP-95-075) issued on May 19, 1999. EHV Weidmann proposed to install a new 500 horsepower ("HP") residual oil-fired boiler to replace its existing Boiler #2 located in the Main Building.

This Technical Analysis documents the Agency's review of the proposed project with respect to the *Vermont Air Pollution Control Regulations* ("*Regulations*").

1.1 Administrative Milestones

Table 1-1: Administrative Summary

Administrative Item	Result or Date
Date Application Received:	10/19/2000
Date Fee Received and Amount:	10/19/2000 $585.00
Date Administratively Complete:	10/20/2000
Date & Location Receipt of Application Noticed:	10/31/2000 *The Caledonian Record*
Date Technically Complete:	11/06/2000
Date Proposed Decision:	11/06/2000 Approved
Date & Location Proposed Decision & Public Comment Period Noticed:	11/09/2000 *The Caledonian Record*
Date & Location Public Meeting Noticed:	No request rec'd on or before 12/04/2000
Date & Location of Public Meeting:	No request rec'd on or before 12/04/2000
Deadline for Public Comments:	12/08/2000
Date Supplemental Fees Rec'd and Amount Rec'd:	12/18/2000 $3,210.00
Breakdown of Supplemental Fees	Engineering Review Fee $1,460.00 Observe & Review Emissions Testing $1,750.00 Total Fees $3,210.00
Classification of Source Under §5-401:	§5-401(6)(a) - Fossil fuel burning equipment of greater than 10 million BTU's per hour rated heat input; §5-401(11) - Manufacturing, processing, application of chemicals, including the processing or application of plastics, rubbers, or resins; §5-401(12) - Operations involving the handling or transferring of sand and dust producing materials of the *Regulations*.

Classification of Operating Permit Application:	Title V Subject Source
New Source Review Designation of Source:	Major Stationary Source
Designation of Modification	Non-Major Modification
Facility SIC Code(s):	2631
Facility SIC Code Description(s):	Paperboard Mills

Allowable Air Contaminant Emissions (tons/year)*							
PM/PM_{10}	**SO_2**	**NO_x**	**CO**	**VOCs**	**Pb**	**Acetone**	**Total HAP**
122	301	91	12	<50**	<0.1	<50**	<25**

* PM/PM_{10} - particulate matter and particulate matter of 10 micrometers in size or smaller, SO_2 - sulfur dioxide, NO_x - oxides of nitrogen, CO - carbon monoxide, VOCs - volatile organic compounds, Pb - lead, HAPs - hazardous air pollutants as defined in §112 of the federal *Clean Air Act.*

** Actual emissions have been estimated to be approximately 9, 25, and 7 tons per year for VOCs, Acetone, and Total HAPs, respectively.

1.2 Basis of Review

EHV Weidmann owns and operates a transformer board manufacturing and assembly facility located off U.S. Route 5 in St. Johnsbury, Vermont (hereinafter "Facility"). Operations performed at the Facility are classified within the Standard Industrial Classification Code - 2631 (Paperboard Mills). The operations performed by EHV Weidmann at the Facility are classified as a source of air contaminants under §5-401 of the *Regulations*, as follows: §5-401(6)(a) - Fossil fuel burning equipment of greater than 10 million BTU's per hour rated heat input; §5-401(11) - Manufacturing, processing, application of chemicals, including the processing or application of plastics, rubbers, or resins; and §5-401(12) - Operations involving the handling or transferring of sand and dust producing materials.

The Agency granted approval for the modifications to the Facility pursuant to the requirements of §556 of Title 10 *Vermont Statutes Annotated* ("10 *V.S.A.*") and §5-501 of the *Vermont Air Pollution Control Regulations* ("*Regulations*") on June 3, 1985. This Air Pollution Control Permit to Construct ("Permit to Construct") was amended on August 21, 1996, in order to allow the installation of a new fabric filter collector and increased exhaust air flow rates through two existing collectors. The fabric filter collectors control emissions of particulate matter ("PM/PM_{10}") generated by the board processing activities. On December 30, 1998, the Agency once again amended its approval to allow the installation of a fabric filter collector and make-up air heater in the Recycle Building.

Additionally, allowable emissions of all air contaminants from EHV Weidmann's operations have been estimated to be greater than ten (10) tons per year ("tpy") and allowable emissions of PM/PM_{10} and sulfur dioxide ("SO_2") greater than 100 tpy. Therefore, pursuant to §§5-1002, 5-1003, and 5-1005 of the *Regulations*, the Facility is classified as a "Title V Subject Source" and is subject to the requirement to secure an Air Pollution Control Permit to Operate ("Permit to Operate") consistent with the requirements of Subchapter X of the *Regulations* and Title V of the *Clean Air Act*. EHV Weidmann was granted its initial Permit to Operate, pursuant to these regulations, on

May 19, 1999. The Permit to Operate was issued simultaneously with an administrative amendment of EHV Weidmann's existing Permit to Construct in order to facilitate the issuance of one combined permit for the same Facility. The Air Pollution Control Permit to Construct and Operate ("Permit to Construct and Operate") was issued consistent with 10 *V.S.A.* §556(e) for the purposes of reducing the administrative burden of enforcing two separate permits for the same Facility.

As was stated previously, EHV Weidmann proposes to install and operate a new residual oil-fired boiler at its Facility. The proposed installation of this replacement boiler satisfies the definition of modification within §5-101 of the *Regulations*, since the project involves a physical change of the stationary source which would result in an actual emissions increase. Consequently, the proposed project is subject to Agency review and approval pursuant to 10 *V.S.A*. §556 and Subchapter V of the *Regulations*. Additionally, any modification of a Title V subject source is subject to review and approval pursuant to the requirements of 10 *V.S.A*. §556a and Subchapter X of the *Regulations*, as well as the federal operating permit regulations in Title 40 *Code of Federal Regulations* ("40 *CFR*") Part 70. The Agency proposes to combine its review for approval of the project under both the construction and operating permit requirements consistent with the authority in 10 *V.S.A.* §556(e).

1.3 Project Description

EHV Weidmann proposes to replace its existing Boiler #2 used to produce hot water for the board manufacturing line identified as BM2 at the Facility. Additionally, EHV Weidmann proposes to make other process changes to improve press operation, steam use, and boiler performance. Process changes will include the installation of a hot water accumulator. This device is intended to reduce boiler swings during periods when the BM2 has very high heat demands. EHV Weidmann is also proposing other process changes to reduce the heat load on Boiler #1 (i.e., switching "white water heating demands" to the replacement boiler).

The new boiler will be a 500 HP fire-tube boiler manufactured by Johnston (Model PFTA500-4). The new boiler will produce steam instead of hot water. According to EHV Weidmann, this will give them more flexibility in meeting the overall heating requirements of the Facility, since the new boiler will be connected to the mill-wide steam header. Hot water for the BM2 will be produced using a steam/water heat exchanger. The new boiler is proposed to have the below listed specifications:

Maximum Rated Heat Input:	19.4 million British Thermal Units per hour ("MMBTU/hr")
Maximum Oil Firing Rate:	130 gallons per hour ("gph");
Fuel:	No. 6 Fuel Oil with a maximum sulfur content not to exceed 0.5 % by weight;
Steam Pressure:	200 psig (maximum) 150 psig (design);
Maximum Steam Production:	17,250 pounds per hour ("lbs/hr");
Combustion Information:	One Low-NO_x burner, compressed air atomization of fuel, forced draft, staged air combustion.

The replacement boiler will be installed in the boiler room next to existing Boiler #2. EHV Weidmann proposes to continue to operate existing Boiler #2 until the replacement boiler is on-line. Once the new boiler is operational, EHV Weidmann proposes to shutdown and dismantle the old unit.

The existing Boiler #2 operated 6,384 hours and burned 266,264 gallons of No. 6 fuel oil (maximum sulfur content of 2% by weight) in 1999. With the proposed improvements, EHV Weidmann projects that the replacement boiler will pick up an additional heat load equivalent to 158,700 gallons of fuel oil per year.

2.0 FACILITY DESCRIPTION AND LOCATION

2.1 Description of Plant Layout and Surrounding Area

The Facility is located off U.S. Route 5 just north of St. Johnsbury, Vermont. The area surrounding the Facility property is rural and consists of primarily agricultural and residential uses. U.S. Route 5 and the Passumpsic River provide the eastern boundary for the plant property, while Interstate 91 provides the western boundary. The geographical area is complex terrain in all directions surrounding the site. Figures 1 and 2 in Appendix A of this Technical Analysis depict the location/property of the Facility.

2.2 Explanation of Process (Including SIC Codes)

The operations performed at the Facility are described using the Standard Industrial Classification Code - 2631 (Paperboard Mills). EHV Weidmann manufacturers transformer board and transformer board assemblies. The transformer boards are sold to businesses involved in the manufacturing and/or repairing of transformers, and are available in standard or special sizes.

The transformer board is manufactured from unbleached kraft pulp and/or recycled transformer board materials. A specialty transformer board, known as Nomex board, is also manufactured at the Facility. The Nomex board is produced using a synthetic fiber manufactured by DuPont.

The process begins by re-pulping material using a combination of water and "proprietary recipes" for the formulation of the pulp-type needed. A large "pulper" is used in this process (driven by an electric motor acting much like a large blender). The resulting mixture of water and fibers is then cleaned by centrifugal treatment of the fiber-water suspension. Next, it is applied via a screenroll to a felt belt in a manner conventional in paper-making. The wet material is accumulated in thin plies on an accumulating roll to thicknesses that vary between 0.25 to 1.25 inches. When the desired amount has been laid, the wet material is parted within the "making roll," and the flat sheet (approximately 20 feet by 10 feet) is conveyed to a drying station. One of two methods is employed to dry the material, either by convection in an oven, or by pressing it between heated plates.

When the end user needs transformer board that is thicker than what can be manufactured using the "making roll", individual board sheets are laminated together to

reach the required thickness. The laminating process utilizes polyester resin between layers of material. Sheets are cut and fed through a machine that applies a thin layer of polyester resin to the top surface. The sheets accumulate to a height of about 24 inches, and are then passed into a hydraulic press where they remain until the resin has cured. Subsequently, the pressed sheets are removed and cut to the required size and sent either to the external customer or internal for further processing.

Boardmaking: EHV Weidmann has two "boardmaking" lines referred to as BM1 and BM2. Figures 4 and 5 in Appendix A of this Technical Analysis depict the process flow diagrams for the two boardmaking lines. Steam and particulates are the only emissions produced in the boardmaking process. Nearly all of the particulates are captured pneumatically through a duct connected to a fabric filter collector (#M41).

Recently EHV Weidmann has begun recycling ground laminated transformer board material in the pulping process. The recycling of this material is expected to produce emissions of styrene from the pulping activities. Emissions have been projected to be 0.03 lbs/hr and 207 lbs/yr from the recycling of this material (emissions increase of 1.6% above actual emissions from the existing lamination line).

Lamination Line: The lamination line is used to laminate boards produced from either BM1 or BM2 to produce thicker board. The board is laminated by means of a curtain coater. In the past, EHV Weidmann also utilized a reciprocator to laminate sheets. However, this device was eliminated from the production process in 1997. The majority of the laminating material (adhesive) used is a polyester resin which requires the addition of a hardener. Water-based adhesives (Casein glue and Dextrin glue) are also used. Figure 6 in Appendix A of this Technical Analysis depicts the process flow for the lamination line.

The curtain coater applies the adhesive similar to a shower. The adhesive is premixed with a hardener and then poured over the board. Once the board has gone through the adhesive application step, another board is placed on top and this continues until the desired board thickness has been achieved. The stack of boards is then compressed in a press for approximately four (4) hours. While the boards are being pressed, the adhesive applicator is cleaned. Acetone is used to clean the curtain coater laminating applicators after laminating with the polyester resin. Water is used to clean the laminating applicators after laminating with the water-based adhesives.

Nomex Boards: The Nomex boards are a specialty board produced on the BM2 line. The Nomex pulp has a different formulation than the wood pulp. Once the boards have been produced and cut, they may be sent to the Nomex process area or to other fabricating areas of the Facility.

In the Nomex process area the boards are heated in an oven and pressed together to form a bond. This process also uses a release agent called Monocoat 327W. During the thermal bonding process, the boards are heated up to approximately 550 ^{o}F.

Combustion Sources: EHV Weidmann operates two (2) No. 6 oil-fired boilers in the Main Building of the Facility. Boiler #1 is a 700 horsepower (“HP”) boiler which is used

for 85% process heat and 15% space heat. Existing Boiler #2 is a 350 HP boiler used for 100% process heat. As stated previously, EHV Weidmann proposes to replace this unit with the new Johnston boiler. EHV Weidmann also operates three (3) No. 2 oil-fired boilers in the Fab North Building (each rated less than 3 MMBTU/hr of heat input), a No. 2 oil-fired boiler (rated less than 3 MMBTU/hr of heat input) in the Training Center, and a No. 2 oil-fired space heating unit (rated less than 3 MMBTU/hr of heat input) in the Recycle Building. Recently, EHV Weidmann obtained approval to install a make-up air duct heater for the Recycle Building. This additional heater was necessary to accommodate the expected increase in air transfer rates within the building associated with the installation of a new fabric filter control device. The fabric filter control device is planned to be installed within the next two years in order to capture PM/PM_{10} emissions produced by transformer board grinding and baling equipment located within the building. This make-up air heater is proposed to have a maximum rated heat input of 0.525 MMBTU/hr and will utilize No. 2 fuel oil.

Board Machining Operations: Various machines are employed to cut the boards to desired shapes and sizes. Depending upon the number of machines in use, dust produced by the machines may be vented to fabric filter collectors (#M51, #M41, #FN15, and Torit & Day collector). When a small number of machines are in use, EHV Weidmann may choose not to operate the collection system. During these instances, the majority of the dust material falls to the floor and is manually recovered (i.e., broom and dust pan).

Recycling Building Grinding Operations

As was stated previously, the Agency granted approval (on December 30, 1998) to EHV Weidmann for the installation of a new fabric filter collector in the Recycle Building. This collector is proposed to be employed to capture light airborne dust that is produced during the chipping of laminated transformer board and its subsequent baling. Besides dust, the exhaust air is also expected to contain a small quantity of styrene which is released from the resin-laminated product during the chipping process. Plans are that the exhaust air exiting the collector may be emitted directly to the ambient air or be optionally diverted through a heat exchanger prior to discharging outside. When the heat exchanger is in use, it will recover much of the heat content of the exhaust air to pre-heat make-up air for the building. In addition, the heat exchanger will be equipped with a duct heater fired with No. 2 fuel oil to provide supplemental heat for the make-up air.

The fabric filter is expected to be a model FT-64-D14 manufactured by the AGET Manufacturing Company. The unit is planned to have a maximum rated exhaust air flow rate of 4,900 actual cubic feet per minute. Note, EHV Weidmann intends on installing a used cyclone and fan in combination with the above identified dust collector. Currently, EHV Weidmann is in the process of investigating the feasibility of recycling its laminated transformer board product, and therefore, the actual installation date for this fabric filter collector is still questionable.

Gluing Operations: Glues and adhesives are used throughout the Facility. Nearly all emissions from gluing operations are considered fugitive emissions. EHV Weidmann has eliminated formaldehyde emissions from its use of adhesives on-site.

Miscellaneous Other Processes: EHV Weidmann operates an oil impregnation process which saturates the transformer boards with oil. This process is located in the Fab North Building. See Figure 9 in Appendix A of this Technical Analysis for a flow diagram of this process. Occasionally, Nomex boards are laminated together using a phenolic bonding film. Finally, a liquid product called Zipguard is applied to some fabricated parts, primarily static rings made in the Metallizing Department of the Fab North Building. When the Zipguard is dry, it acts as a moisture barrier.

2.3 Process Equipment and Stack Information

2.3.1 Description of Equipment

See Table 2-1: Equipment Information, for a list of the more important emission points at the Facility. See Tables 2 and 3 in Appendix B of this Technical Analysis for a complete listing of vents, stacks, and emission points at the Facility.

2.3.2. Description of Compliance Monitoring Devices

No devices have been proposed to continuously monitor emissions produced at this Facility.

Table 2-1: Equipment and Stack Information

DESCRIPTION AND MODEL NUMBER*	STACK #	SIZE OR CAPACITY (MAX. ALLOWED)	FUEL TYPE(S) OR PROCESS INPUT	DATE INSTALLED	POLLUTION CONTROL EQUIPMENT**	FLOW RATE (ACFM)	STACK HEIGHT (FT Above Grade)	EXIT TEMP (°F)	ALLOWABLE EMISSION RATE (lbs/hr)						
									PM/ PM_{10}	SO_2	NO_x	CO	VOCs	Other	HAPs
Boiler #1 - Main Bldg. Manuf. - Cleaver Brooks	M6	29.3 MMBTU/hr (700 HP)	No. 6 Oil (2.0%S by wt.)	Sept. 1970	Uncontrolled	7,210	54 (2.4 ft. in diameter)	N/P	6.2	60	14	2.2	1.0	--	0.029
~~Boiler #2 - Main Bldg. Manuf. - Cleaver Brooks~~	~~M29~~	~~14.6 MMBTU/hr (350 HP)~~	~~No. 6 Oil (2.0%S by wt.)~~	~~June 1976~~	~~Uncontrolled~~	~~3,600~~	~~53 (2 ft. in diameter)~~	~~N/P~~	~~3.1~~	~~30~~	~~7.2~~	~~1.1~~	~~0.52~~	--	~~0.015~~
Boiler #3 - Main Bldg. Manuf. - Johnston	TBD	19.4 MMBTU/hr (500 HP)	No. 6 Oil (0.5%S by wt.)	Proposed	Low-NO_x Burner	6,500 (100% load)	53 (2.06 ft. in diameter)	400	2.35	10.1	10.2	0.78	0.2	--	0.02
Boiler #1 - Fab North Manuf. - Peerless	FN18	2.67 MMBTU/hr	No. 2 Oil (0.5%S by wt.)	1995	Uncontrolled	N/A	N/A	N/A	1	1.3	0.53	<0.04	0.078	--	neg.
Boiler #2 - Fab North Manuf. - Peerless	FN18	2.67 MMBTU/hr	No. 2 Oil (0.5%S by wt.)	1995	Uncontrolled	N/A	N/A	N/A	1	1.3	0.53	<0.04	0.078	--	neg.
Boiler #3 - Fab North	FN18	1.05 MMBTU/hr	No. 2 Oil (0.5%S by wt.)	1995	Uncontrolled	N/A	N/A	N/A	05	0.54	0.15	0.04	0.0026	--	neg.
Space Heater - Recycling Bldg.	R1	0.10 MMBTU/hr	No. 2 Oil (0.5%S by wt.)	1995	Uncontrolled	N/A	N/A	N/A	0.05	0.06	0.017	0.004	0.0003	--	neg.
Boiler - Training Center	TC1	0.13 MMBTU/hr	No. 2 Oil (0.5%S by wt.)	1982	Uncontrolled	N/A	N/A	N/A	0.07	0.08	0.023	0.006	0.0004	--	neg.
Duct Heater - Recycling Bldg.	RB?	0.525 MMBTU/hr	No. 2 Oil (0.5%S by wt.)	Planned	uncontrolled	N/A	N/A	N/A	0.26	0.32	0.09	0.02	0.0015	--	neg.
Board Machining - Main Bldg.	M51		Paperboard	1974	Carter Day fabric filter (72RJ96)	15,000	Horizontal Vent	Ambient	7.7	--	--	--	--	--	--
Board Machining - Main Bldg.	M41		Paperboard	1970's	Carter Day fabric filter (72RJ60)	15,560	Horizontal Vent	Ambient	2.7	--	--	--	--	--	--
Board Machining - Fab North	FN15		Paperboard	1985	Carter Day fabric filter (232RFT8)	26,000	Horizontal Vent	Ambient	4.5	--	--	--	--	--	--
Board Machining - Fab North	FN?		Paperboard	1996	Torit & Day fabric filter (232RFW8)	25,000	Horizontal Vent	Ambient	4.3	--	--	--	--	--	--
Grinding/Bailing Equip. - Recycling Bldg.	RB?		Laminated Transformer Board	Planned	AGET fabric filter (FT-64-D1)	4,900	Horizontal Vent	Ambient	0.84	--	--	--	Styrene 0.66	--	Styrene 0.66
Laminating Line	M24, M37, M40		Paperboard, Resins, & Solvents	1970's	Uncontrolled	M24: 6,120 M37: 26,500 M40: N/P	M24: 50 (2.9 ft. dia.) M37 & M40: Horizontal Vent	N/P	--	--	--	--	Adhesive 3.6; Cleaning Solvent 4.6	Acetone 103	Styrene 3.5
Nomex Press Line	M10		Paperboard, Resins, & Solvents	1985	Uncontrolled	5,500	45.5 (2.5 ft x 2.5 ft)	N/P	--	--	--	--	0.65	--	--
Gluing Operations	Facility-wide		Various glues & adhesives	1970's	Uncontrolled	Fugitive	Fugitive	Ambient	--	--	--	--	0.042	--	0.005

Notes: N/A - Not applicable, since the equipment is classified as "insignificant activities" pursuant to §5-1002(h) of the *Regulations*.

N/Q - Not quantifiable. N/P - Not provided in the application. Neg. - negligible emissions. TBD - To be determined.
Equipment listed in ~~strikeout font~~ will be removed.

3.0 QUANTIFICATION OF POLLUTANTS

Emissions must be calculated for the Facility in order to establish the regulatory review process necessary for the construction and operating permit portions of the application and to determine applicability with various air pollution control requirements. These determinations are normally based upon allowable emissions. Allowable emission is defined as the emission rate calculated using the maximum rated capacity of the source and, if applicable, either: (a) the applicable emission standard contained in the *Regulations*, if any, or (b) the emission rate or design, operational or equipment standard specified in any order or agreement issued under the *Regulations* that is state and federally enforceable. In addition, §5-101 of the *Regulations* defines a "stationary source" as any structures, equipment, installations, or operations, 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 under common control. Based upon this definition, all of the equipment, operations, and structures at Facility are grouped together as one stationary air contaminant source.

Under the Agency's construction permit program (see Subchapter V of the *Regulations*), a source is classified as a major stationary source if allowable emissions of any air contaminant equal or exceed fifty (50) tons per year ("tpy"), except the air contaminant lead which is five (5) tpy. Additionally, any modification to an existing major stationary source which results in an emissions increase equal to or greater than the "significant" levels identified in §5-101 of the *Regulations*, is classified as a major modification and subject to the same review requirements as a new major source.

Under the Agency's operating permit program, a source is classified as a "Title V Subject Source" and subject to federal review of the Permit to Operate if the Facility satisfies any one of the following criteria:

1. The source has allowable emissions of oxides of nitrogen ("NO_x"), sulfur dioxide ("SO_2"), carbon monoxide ("CO"), particulate matter ("PM/PM_{10}") or any other air contaminant, except volatile organic compounds ("VOCs"), of 100 tpy or greater;

2. The source has allowable emissions of VOCs of fifty (50) tpy or greater;

3. The source is subject to a federal emission standard pursuant to §111 of the *Clean Air Act* ("*CAA*") and promulgated in 40 *CFR* Part 60 (Standards of Performance for New Stationary Sources);

4. The source is subject to a federal emission standard pursuant to §112 of the *CAA* and promulgated in 40 *CFR* Part 61or 63 (National Emission Standards for Hazardous Air Pollutants); or

5. The source has allowable emissions of any one hazardous air pollutant ("HAP") regulated by the U.S. EPA of ten (10) tpy or greater, or allowable emissions of a combination of HAPs regulated by the U.S. EPA of twenty-five (25) tpy or greater. The HAPs regulated by the U.S. EPA are identified in §112 of the *CAA*.

Note: Non-major stationary sources subject to a requirement in §111 or §112 of the CAA are currently not subject to the Title V operating permit program, since the U.S. EPA has deferred the requirement for a Title V operating permit for non-major sources pursuant to 40 CFR Part 70 §70.3(b)(1) and the fact that the U.S. EPA has not completed rulemaking establishing how the program should be structured for non-major sources.

Based upon its allowable emissions (see Table 3-1 below), the Facility is currently classified as a “major stationary source” under the construction permit program, and a “Title V subject source” under the operating permit program requirements. Upon completion of the proposed modifications, the Facility will retain these classifications.

Emissions produced from the combustion of fuels in the fuel burning equipment include: particulate matter ("PM/PM_{10}"), sulfur dioxide ("SO_2"), oxides of nitrogen ("NO_x"), carbon monoxide ("CO"), and volatile organic compounds ("VOCs"). VOCs from fuel burning equipment are also commonly referred to as non-methane hydrocarbons ("NMHCs") or total organic compounds ("TOCs"). The board machining operations and recycling equipment result in the discharge of PM/PM_{10} (i.e., dust), while VOCs are produced by the laminating lines, Nomex board production, and gluing operations.

As will be discussed in paragraph 3.5 below, the existing Permit to Construct and Operate places an enforceable restriction that limits emissions of VOCs to less than 50 tpy site-wide. A similar limit exists on emissions of acetone (a regulated air contaminant in Vermont). Record keeping requirements are utilized to verify compliance with these limits on a rolling twelve (12) consecutive calendar month period. For comparison purposes, the Agency has quantified actual emissions of VOCs and acetone from EHV Weidmann in a 1999 inspection report (most recent report on file). Based upon historical records, EHV Weidmann's actual emissions of VOCs and acetone are 7 and 18 tpy, respectively.

Individual constituents which makeup the categories of PM/PM_{10} and VOCs are also regulated by state and federal regulations, and must therefore be quantified. These individual constituents are referred to as hazardous air contaminants ("HACs") and/or hazardous air pollutants ("HAPs"). HAPs are defined as those chemicals listed in the §112(b) of the federal *Clean Air Act*, of which there are 188 chemicals. HACs are defined as those chemicals which are listed in Appendix B of the *Regulations*. All of the 188 HAPs are included as HACs.

3.1 Existing Designation of the Stationary Source

The first step in designating a modification as major or non-major (i.e., minor) is to classify the existing size of the source (i.e., major or minor). A source is considered major if it has allowable emissions of fifty (50) tons per year (“tpy”) or greater for any air contaminant [Exception: five (5) tpy for lead]. Allowable emissions are developed using applicable emission standards in the *Regulations*, permit conditions, or emission estimates. Additionally, allowable emissions must be determined assuming continuous operation of the stationary source (i.e., 8760 hours per year) at maximum capacity, unless the owner or operator of a source operates under enforceable limits that restrict operations to a lower level.

Currently, EHV Weidmann operates under the confines of its existing Air Pollution Control Permit to Construct and Operate #AOP-95-075 issued on May 19, 1999. Summarized in Table 3-1 below are the allowable emissions for EHV Weidmann based upon the restrictions of its Permit to Construct and Operate. Additional information supporting the derivation of the allowable emissions may be found in Table 1, Appendix A of this Technical Analysis.

Table 3-1: Existing Allowable Emissions for EHV Weidmann

Source	Air Contaminant Emissions, tons per year						
	PM/PM_{10}	SO_2	NO_x	CO	VOCs	Acetone	HAPs
Fuel Burning Equipment	42	410	<100 See Note 2	15	7.5	---	0.2
Fabric Filter Collectors	89	---	---	---	---	---	---
Laminating Line, Nomex Board Production, and Fugitive Emissions of Adhesives	---	---	---	---	42 (+/-) See Note 1	<50 See Note 2	<25 See Note 2
Total Facility	131	410	<100	15	<50	<50	<25

Note 1: EHV Weidmann operates under the restriction to maintain VOC emissions below 50 tpy. The estimate of 7.5 tpy of VOCs from the fuel burning equipment assumes continuous operation of all fuel burning equipment on-site. Actual emissions of VOCs from the fuel burning equipment are approximately 2 tpy. Therefore, emissions of VOCs from the laminating line, Nomex board production, and adhesive usage are allowed to exceed 42 tpy, as long as total actual VOC emissions at the Facility remain less than 50 tpy. Record keeping and reporting conditions are in place to verify that annual VOC emissions do not equal or exceed 50 tpy. Actual emissions of VOCs are approximately 9 tpy.

Note 2: EHV Weidmann operates under the restriction to maintain NOx emissions below 100 tpy, actone below 50 tpy, and Total HAPs below 25 tpy.

As was stated previously, a facility is designated a major stationary source of air contaminants if its allowable emissions of any air contaminant equal or exceed fifty (50) tpy [Exception: five (5) tpy for lead). As described in Table 3-1 above, EHV Weidmann has allowable emissions greater than fifty (50) tpy for PM/PM_{10}, SO_2, and NO_x. Therefore, based upon its existing allowable emissions, EHV Weidmann is designated an existing major stationary source.

3.2 Designation of the Modification

The designation of an existing stationary source determines the appropriate levels for comparison when attempting to classify the size of the modification for new source review purposes. As an existing major source, any emissions increase resulting from modifications must be compared to the *Significant Levels* described in §5-101 of the *Regulations* in order to determine whether or not the proposed modifications are subjected to the new source review requirements of §5-502 of the *Regulations* (Major Source and Major Modifications). If a proposed modification or aggregation of minor modifications at the source equal or exceed the “significant” levels, then the modification is classified as major and subject to the requirements of §5-502 of the *Regulations*.

Additionally, it is also important to note that pursuant to §5-502(1), two forms of increases

must be compared to the *Significant Levels* for determining the applicability of this section. First, the allowable emissions attributable to the proposed modification, and second, the aggregated emissions increase from minor modifications constructed since July 1, 1979 (including the proposed modification). The purpose of the aggregated emissions comparison is to prevent the circumvention of major source review due to incremental minor increases in emissions over time. It should be noted that prior modifications at a source which have been reviewed under §5-502 of *Regulations* do not continue to be aggregated with proposed modifications for the purposes of determining the applicability of major modification review. This determination is performed on a pollutant-by-pollutant basis.

3.2.1 New Allowable Emissions Increase

The new allowable emissions are the allowable emissions associated with the proposed replacement boiler. The new allowable emissions are summarized in Table 3-2 below. Table 2 in Appendix A of this Technical Analysis summarizes the information used to determine these allowable emissions.

Table 3-2: Proposed Emissions Increase at EHV Weidmann

Source	Air Contaminant Emissions, tons per year				
	PM/PM_{10}	SO_2	NO_x	CO	NMHCs
Proposed Modification	5.1	21.8	22.0	1.7	0.4
Significant Level [per § 5-101 of the *Regulations*]	25/15	40	40	50	40

Table 3-2 above indicates the proposed modification by itself will not exceed any *Significant Level*.

3.2.2 Aggregated Allowable Emissions Increase

As was stated previously, prior minor modifications constructed subsequent to July 1, 1979, must be aggregated with the proposed modification for the purposes of determining applicability with §5-502 of the *Regulations*. An exception exists for those prior modifications which have previously been aggregated for the purposes of review pursuant to this section. As can be seen in the Agency's Technical Analysis dated July 17, 1996, EHV Weidmann is beginning with practically a "fresh slate" in terms of emission increases for PM/PM_{10}. Only one prior modification needs to be considered for emissions of PM/PM_{10} (i.e., Recycle Building fabric filter addition). Since the aggregation process is performed on a pollutant-by-pollutant basis, modifications constructed before 1998 must still be considered for SO_2, NO_x, CO, and VOCs. Table 3-3 below summarizes the aggregated emissions increase for comparison to the *Significant Levels*. Table 3 in Appendix A of this Technical Analysis summarizes the information used to determine the aggregated emissions increase.

Table 3-3: Aggregated Emissions Increase at EHV Weidmann

Source	Air Contaminant Emissions, tons per year				
	PM/PM_{10}	SO_2	NO_x	CO	VOCs
Proposed Modification	5.1	21.8	22.0	1.7	0.4
Emission Due to Prior Modifications	4.9	13.4	5.9	0.3	6.5
Aggregated Emissions Increase	10.0	35.2	27.9	2.0	6.9
Significant Level [per § 5-101 of the *Regulations*]	25/15	40	40	50	40

Table 3-3 above indicates the aggregated emissions increase for all air contaminants is less than the *Significant Levels*. Consequently, the proposed modification is classified as a non-major modification and is not subject to review under § 5-502 of the *Regulations*.

3.3 Designation of the Facility in the Future

Summarized in Table 3-4 below are the allowable emissions for EHV Weidmann for the future. Table 4 in Appendix A of this Technical Analysis summarizes the derivation of the future allowable emissions. Based upon the level of emissions identified in Table 3-4 below, EHV Weidmann will retain its classification as a major stationary source and Title V subject source.

Table 3-4: Future Allowable Emissions for EHV Weidmann

Source	Air Contaminant Emissions, tons per year						
	PM/PM_{10}	SO_2	NO_x	CO	VOCs	Acetone	HAPs
Fuel Burning Equipment	34.4	301	91	12	6	---	0.2
Fabric Filter Collectors	87.4	---	---	---	---	---	---
Laminating Line, Nomex Board Production, and Fugitive Emissions of Adhesives	---	---	---	---	43 (+/-) See Note 1	<50	<25
Total Facility	122	301	91	12	<50	<50	<25

Note 1 - EHV Weidmann has proposed to restrict VOC emissions below 50 tpy. The estimate of 6 tpy of VOCs from the fuel burning equipment assumes almost continuous operation of all fuel burning on-site. Actual emissions of VOCs from the fuel burning are expected to much lower than 6 tpy. Therefore, emissions of VOCs from the laminating line, Nomex board production and adhesive usage can exceed 43 tpy, as long as total actual VOC emissions at the site remain less than 50 tpy.

3.4 Enforceable Operating Restrictions

The Facility presently operates under the limitations imposed by a Permit to Construct and Operate. EHV Weidmann proposes to maintain these limitations, with the following

modifications.

1. Eliminate conditions pertaining to existing Main Building Boiler #2,

2. Residual oil sulfur content restricted to 0.5% by weight or less for the new boiler, and

3. Emission of combustion contaminants from the new boiler are limited as follows:

Unit	Emission Limitation Per Contaminant					
	lbs/MMBTU			lbs/hr		
	PM/PM_{10}	NO_x	CO	PM/PM_{10}	NO_x	CO
Main Bldg. Boiler #3 (Johnston) 19.4 MMBTU/hr	0.12	0.53	0.040	2.4	10	0.8

4. Restrict fuel consumption in the replacement boiler to 558,500 gallons per year or less.

Note the Agency proposes to eliminate an existing restriction within the Permit to Construct and Operate that limits total NO_x emissions at the site to less than 100 tpy. The purpose of this condition was to specifically keep EHV Weidmann from being subject to the reasonably available control technology ("RACT") requirements in §5-251(3) of the *Regulations*. This was necessary due to potential emissions being greater than 100 tpy based upon unrestricted fuel consumption. With the proposed replacement boiler and fuel use restriction noted in item 4. above, this condition will not longer be necessary since potential emissions will 91 tpy. Additionally, the Agency proposes to eliminate conditions regarding a monthly calculation of site-wide NO_x emissions and the semi-annual reporting of NO_x emissions. These emissions will still be reported annually as part of the Agency's annual registration process.

3.5 Identification of Insignificant and Exempt Activities

Activities which qualify as an "insignificant activity" pursuant to §5-1002(h) of the *Regulations* need not be considered when determining the applicability of Subchapter X of the *Regulations* and must only be listed as such within the operating permit application. In its application, EHV Weidmann has identified the below listed fuel burning equipment as having a heat input rating less than 3 MMBTU/hr and thus being classified as an "insignificant activity" pursuant to §5-1002(h)(1)(i):

1. Three (3) No. 2 oil-fired boilers located in Fab North Building;
2. Space Heater located in the Recycle Building;
3. Boiler located in the Training Center; and
4. Three propane-fired roof top mounted heating and cooling units installed in 1999. The rated heat input for each unit is less than 300,000 BTU/hr.

Other activities classified as producing insignificant emissions include: oil impregnation

process, Nomex board lamination process, and finishing application (i.e., use of Zipguard product). Based on the estimated emissions produced from these activities, the Agency concurs with EHV Weidmann that emissions from these activities need not be included and are considered insignificant activities pursuant to §5-1002(h)(1)(viii) of the *Regulations*.

Although considered "insignificant activities" within Subchapter X of the *Regulations*, emissions from the above identified activities and equipment must be quantified (if possible) for the purposes of establishing allowable emissions for determining applicability with other air pollution control requirements (e.g., reasonably available control technology, major source status, Title V operating permit applicability, etc.). Consequently, allowable emissions for the Facility, as summarized within this Technical Analysis, includes emissions produced from the above listed activities and equipment. Air contaminant emissions from the three roof mounted heating and cooling units was not explicitly calculated since they are considered negligible.

The exclusion of emissions produced by the insignificant activities does not alter the applicability status of the Facility under Subchapter X of the *Regulations*.

4.0 MOST STRINGENT EMISSION RATE

§5-502(3) of *Regulations* requires that applicable new major sources and major modifications achieve the Most Stringent Emission Rate ("MSER") with respect to those air contaminants for which it would have a "significant" increase in actual emissions. MSER must be achieved for each proposed physical or operational change which contributes to the increased emissions of the air contaminant. As calculated in item 3.2 above, the proposed modification is not subject to the requirements in §5-502 of the *Regulations*. However, it should be noted that a major modification at the Facility was approved in 1996. EHV Weidmann was required to achieve MSER for PM/PM_{10} from the discharge of three fabric filter collectors (#M41 in the Main Building and two Fab North collectors). MSER was established as an emission concentration of 0.02 grains per dry standard cubic foot (“gr/dscf”) of undiluted exhaust.

5.0 APPLICABLE REQUIREMENTS

5.1 Citation and Description of all Applicable Requirements

§5-1006(e)(4) of the *Regulations* requires the owner/operator of a stationary air contaminant source to submit a complete application including, but not limited to a demonstration of compliance with all applicable air pollution control requirements. These requirements include state and federal regulations, and the requirements of any construction permit issued under 10 *V.S.A*. §556. Note that compliance relative to §5-261 and §5-1010 of the *Regulations* will be discussed separately under paragraphs 6.0 and 7.0 of this Technical Analysis.

The compliance analyses and determinations in this technical analysis rely on data and

representations provided by the Owner/Operator. Any statements and conclusions regarding the compliance status contained herein are not binding against the state of Vermont in any future legal or administrative proceedings.

Vermont Air Pollution Control Regulations

§5-201 and §5-202 - Open Burning Prohibited and Permissible Opening Burning. Open burning of materials is regulated within these requirements. EHV Weidmann periodically open burns natural wood pallets on-site after permission is received from local authorities.

EHV Weidmann has stated that it complies with these requirements.

The Agency will verify compliance with this standard in the future during any inspections of the Facility.

§5-211(2) - Prohibition of Visible Air Contaminants - Installations Constructed Subsequent to April 30, 1970. This standard applies facility-wide and specifies that visible air contaminant emissions may not exceed twenty (20) % opacity for a period of six (6) minutes or more in any hour, and at no time may they exceed sixty (60) % opacity. Primarily this standard affects any source of particulate matter emissions, such as fuel burning equipment and discharges from the board machining operations and recycling of laminated transformer board. Compliance with this standard is based upon the procedures contained in proposed Reference Method F-1 (51 *Federal Register*, page 31076, August 29, 1986).

EHV Weidmann has stated that it complies with the standard based on their equipment maintenance.

The Agency will verify compliance with this standard in the future during any inspections of the Facility.

§5-221(1)(a) - Prohibition of Potentially Polluting Materials in Fuel. This section prohibits the use of any fuel, in stationary fuel burning equipment, with a sulfur content more than 2.0% by weight. This prohibition applies to all stationary fuel burning equipment used on-site. Compliance with this standard is based on fuel analyses following the procedures prescribed by the American Society for Testing and Materials ("ASTM").

EHV Weidmann has stated that it complies with this standard based on the restrictions in their existing permit, their proposed limitation for the new boiler, and their contract with fuel suppliers.

The continued use of these methods are sufficient to ensure compliance with this limitation in the future. The Agency may require EHV Weidmann to perform oil sampling and analyses to confirm compliance.

§5-231(1) - Prohibition of PM; Industrial Process Emissions. This standard applies

to any stack or vent associated with an industrial process at the Facility. Primarily this standard is of consequence to any industrial process which includes a discharge of PM/PM_{10}, such as the fabric filter exhausts serving the board machining operations and the recycling of laminated transformer boards. §5-231(1) of the *Regulations* is divided into two subsections. The first subsection, subsection (a), specifies an emission rate limit based upon the process weight of the production process. Where the process weight is considered inappropriate, such as wood processing operations, subsection (b) identifies a PM/PM_{10} concentration limit of 0.06 grains per dry standard cubic foot ("gr/dscf") of undiluted exhaust. The limit of 0.06 gr/dscf has been previously determined to be applicable to the fabric filter discharges serving the board processing operations. Compliance with this standard is based upon the use of Reference Method 5 (40 *CFR* Part 60, Appendix A). Note, other methods, such as the use of pressure drop measurement devices on fabric filters, may be employed as a means of monitoring the performance of the control device and the likelihood that such limitation is being violated.

PM/PM_{10} emission limits for three fabric filter collectors (#M41 in the Main Building and two collectors in the Fab North Building) are subject to more stringent requirements due to the application of MSER. The MSER limits have been placed within the existing Permit to Construct and Operate and are specified as 0.020 gr/dscf. These permit restrictions overrule the limit derived from §5-231(1)(b) of the *Regulations* for the noted collectors.

EHV Weidmann has stated that it complies with this section based upon the use of fabric filter collectors and their emission estimates.

The Agency will assess compliance with this standard in the future as follows: (1) EHV Weidmann will be required to properly operate and maintain its fabric filter collectors, (2) visual observations of each exhaust will be conducted during any Agency inspections of the Facility, and (3) if visible emissions are observed to be in excess of the limits specified in §5-211(2) of the *Regulations*, the Agency may require the performance of a stack test to verify compliance with the applicable PM standard or that other corrective measures be taken.

§5-231(3)(a)(i) - Prohibition of PM; Combustion Contaminants. This standard applies to any fossil fuel burning equipment with a rated heat input of 10 MMBTU/hr or less. Specifically, this standard applies to the No. 2 oil-fired fuel burning equipment (i.e., three boilers in the Fab North Building, a space heater and make-up air duct heater in the Recycling Building, and a boiler in the Training Center) operated by EHV Weidmann. This standard specifies that PM emissions may not exceed 0.5 lbs/hr/MMBTU of heat input. Compliance with this standard is generally based on the use of Reference Method 5 (40 *CFR* Part 60, Appendix A).

EHV Weidmann has stated that it complies with the standard based on their emission estimates and their scheduled maintenance of the fuel burning equipment.

The Agency will assess compliance with this standard in the future as follows: (1) EHV Weidmann will be required to properly operate and maintain its fuel burning equipment, (2) visual observations of each exhaust will be conducted during any Agency inspections of the Facility, and (3) if visible emissions are observed to be in excess of the limits

specified in §5-211(2) of the *Regulations*, the Agency may require the performance of a stack test to verify compliance with the above referenced PM standard or that other corrective measures be taken.

§5-231(3)(a)(ii) - Prohibition of PM; Combustion Contaminants. The PM standard in this section is applicable to fuel burning equipment with a heat input greater than 10 MMBTU/hr but equal to or less than 250 MMBTU/hr. The PM standard is in units of lbs/hr/MMBTU and varies based upon the heat input of the unit. The actual value of the standard is derived based upon the following formula:

$$E_{PM} ? 10^{[?0.47039(\log_{10} HI)?0.16936]}$$

Where HI is the maximum rated heat input of the unit in MMBTU/hr; and
E_{PM} is the emission rate in lbs/hr/MMBTU.

In accordance with the above formula, the following emission standards apply to Main Building Boiler #1 and the proposed replacement boiler:

E_{PM} for Cleaver Brooks 29.3 MMBTU/hr Boiler = 0.30 lbs/hr/MMBTU; and
E_{PM} for Johnston 19.4 MMBTU/hr Boiler = 0.37 lbs/hr/MMBTU.

Compliance with the standard in §5-231(3)(a)(ii) of the *Regulations* is generally based on the use of Reference Method 5 (40 *CFR* Part 60, Appendix A). Note: A PM/PM_{10} emission limit for Main Building Boiler #1 is identified in the existing Permit to Construct and Operate which is more stringent than the above limitation. This permit restriction overrules the limit derived from §5-231(3)(a)(ii) of the *Regulations*. Similarly, EHV Weidmann has proposed a more stringent emission limitation for the replacement boiler. This limitation will also overrule the standard derived from §5-231(3)(a)(ii) of the *Regulations*.

EHV Weidmann has stated that it complies with the standard based on their emission estimates, and the scheduled maintenance of the boilers.

Emissions of PM/PM_{10} will result from the burning of fuel in the boilers at the Facility. The quantity of these emissions produced will depend upon the quality of their operation, maintenance, and the quality of the fuel being burned. In an effort to maintain compliance with this requirement the Agency will require EHV Weidmann to properly maintain and operate its fuel burning equipment following the manufacturer's recommendations, and that EHV Weidmann perform periodic maintenance tuneups on its equipment. The Agency will also assess visible emissions from the fuel burning equipment while on-site performing inspections of the Facility, and if visible emissions are observed to be in excess of the limits specified in §5-211(2) of the *Regulations*, the Agency may require the performance of a stack test to verify compliance with the above referenced PM standards or that other corrective measures be taken.

§5-231(4) - Prohibition of PM; Fugitive PM. This section requires the use of fugitive PM control equipment on all process operations and the application of reasonable

precautions to prevent PM from becoming airborne during the handling, transportation, and storage of materials, or use of roads. This requirement applies to the entire Facility and is of particular concern with the board machining operations and recycling of laminated transformer boards.

EHV Weidmann has stated that it complies with this requirement based on the use of their fabric filter control devices on the board machining operations.

The Agency will verify compliance with this requirement in the future as follows: (1) require the proper operation and maintenance of the fabric filter control devices, (2) require the use of reasonable precautions to minimize the generation of PM/PM_{10} during the handling, transportation, storage and disposal of PM/PM_{10} collected by the fabric filter collectors, (3) application of water or surfactants to the haul roads and plant yard as necessary, (4) assess compliance with this requirement during any inspections of the Facility, and (5) require the use of additional measures if found necessary during a compliance inspection.

§5-241(1) & (2) - Prohibition of Nuisance and Odor. This requirement applies to the entire Facility and prohibits the discharge of air contaminants that would be a nuisance to the public or be source of objectionable odors beyond the property-line of the Facility.

EHV Weidmann has stated that it complies with this requirement due to their observation of dust and odors from the operations.

The Agency will verify compliance with this requirement in the future during any inspections of the Facility. Additionally, the Agency investigates all complaints that it receives in order to determine whether or not there is a violation of this requirement.

§5-701 - Maintenance and Removal of Control Devices. This section prohibits the alteration or removal of a motor vehicles air pollution control system, as well as the proper maintenance of such systems. These requirements apply to any motor vehicles owned and operated by EHV Weidmann.

EHV Weidmann has stated that it complies with these requirements.

The Agency will verify compliance with this requirement in the future.

§5-702 - Excessive Smoke Emissions from Motor Vehicles. Prohibits the discharge of excessive visible air contaminants from a motor vehicle for longer than five (5) consecutive seconds. This requirement applies to any motor vehicle owned and operated by EHV Weidmann.

EHV Weidmann has stated that it complies with this requirement.

The Agency will verify compliance with this requirement in the future.

Subchapter VIII - Registration of Air Contaminant Source. This Subchapter requires the owner or operator of a stationary source register with the Agency if the source

produces five (5) tons per year or greater of actual emissions during the preceding calendar year. The owner or operator of a source is required to submit information regarding their operations and pay a fee based upon the quantity of emissions they produce and the fuels that they use at the source.

EHV Weidmann has stated that it complies with this requirement based on the information they have submitted and the fees they have paid in preceding years.

The Agency will ensure compliance with this requirement in the future during any inspections of the Facility.

§5-911 - Motor Vehicle Air Conditioning. Requirements pertaining to repair and service of motor vehicle air conditioners and the use of chlorofluorocarbons ("CFCs"). These requirements apply to the maintenance of any air conditioning equipment present in any motor vehicle owned and operated by EHV Weidmann.

EHV Weidmann has stated that it complies with these requirements.

The Agency will verify compliance with these requirements in the future.

§5-921 - Regulation of Ozone-Depleting Products. Prohibits the selling of fire extinguishers containing halons and ozone depleting products, except for commercial or industrial usage or unless sold to fire departments for their own use in fighting fires.

EHV Weidmann has stated that it complies with these requirements.

The Agency will verify compliance with these requirements in the future.

Air Pollution Control Permit to Construct

Pursuant to §5-1002(d)(1) of the *Regulations*, the conditions of any permit issued under the authority in 10 *V.S.A.* §556 and its regulations are considered applicable requirements. EHV Weidmann operates under the confines of an existing site-wide Permit to Construct and Operate issued on May 19, 1999. The conditions of this Permit to Construct and Operate will carryover into any new permit issued to EHV Weidmann approving the proposed boiler replacement. Some changes in the existing permit conditions will be necessary to acknowledge the replacement of Main Building Boiler #2. Summarized below are the existing permit conditions.

Condition (1) - Modify and operate the Facility in accordance with plans and specifications submitted to the Agency.

EHV Weidmann has stated that it complies with this requirement.

The Agency will verify compliance with this standard in the future during any inspections of the Facility.

Condition (2) - Requires the control of PM from the board machining operations and recycling of laminated transformer boards by installing, operating, and maintaining fabric

filter collectors.

EHV Weidmann has stated that it complies with this requirement.

The Agency will verify compliance with this requirement in the future during any inspections of the Facility.

Condition (3) - Limitations on PM/PM_{10} emissions from equipment served by fabric filter collectors.

EHV Weidmann has stated that it complies with this requirement based upon their emission estimates.

The Agency will assess compliance with this standard in the future as follows: (1) EHV Weidmann will be required to properly operate and maintain its fabric filter collectors, (2) visual observations of each exhaust will be conducted during any Agency inspections of the Facility, and (3) if visible air contaminant emissions are observed to be in excess of the limits specified in §5-211(2) of the *Regulations*, the Agency may require the performance of a stack test to verify compliance with the above referenced PM standards or that other corrective measures be taken.

Condition (4) - Limitations on combustion contaminants from two boilers located in the Main Building and the planned new make-up air duct heater to be located in the Recycling Building.

EHV Weidmann has stated that it complies with this requirement based upon their emissions estimates, and their maintenance and operation of their fuel burning equipment.

The Agency will assess compliance with this standard in the future as follows: (1) EHV Weidmann will be required to properly operate and maintain its fuel burning equipment, (2) perform visual observations of the exhaust during any Agency inspections of the Facility, and (3) if visible air contaminant emissions are observed to be in excess of the limits specified in §5-211(2) of the *Regulations*, the Agency may require the performance of a stack test to verify compliance with the above referenced standards or other corrective measures be taken.

Conditions (5) and (6) - Emissions of VOCs and acetone from the Facility are limited to less than 50 tpy.

EHV Weidmann has stated that it complies with this requirement.

The Agency will ensure compliance with this requirement in the future during any inspections of the Facility. The Agency will also require the submittal of semi-annual reports summarizing production data in order to verify compliance with these limits, and EHV Weidmann will be obligated to certify compliance with this requirement at least once each year as part of the Agency's registration program required under Subchapter VIII of

the *Regulations.*

Condition (7) - Emissions of NO_x from the Facility are limited to less than 100 tpy.

EHV Weidmann has stated that it complies with this requirement.

The Agency will ensure compliance with this requirement in the future during any inspections of the Facility. The Agency will also require the submittal of semi-annual reports summarizing fuel use data in order to verify compliance with this limit, and EHV Weidmann will be obligated to certify compliance with this requirement at least once each year as part of the Agency's registration program required under Subchapter VIII of the *Regulations.*

Condition (8) - Visible air contaminant emissions limitations. This specifies the opacity limits that apply to Facility. This standard is based on the limits of §5-211(2) of the *Regulations*.

EHV Weidmann has stated that it complies with this requirement based on their observation of the operations and equipment maintenance.

The Agency will verify compliance with this standard in the future during any inspections of the Facility.

Condition (9) - Restricts the sulfur content of fuel oil burned in the boilers located in the Main Building. Boilers may not burn fuel oil with a sulfur content greater than 2.0% by weight. Note, this condition will be revised in order to specify a more stringent sulfur content limitation for the replacement boiler.

EHV Weidmann has stated that it complies with this standard based on the restrictions in their Permit to Construct and their contract with fuel suppliers.

The continued use of these methods are sufficient to ensure compliance with this limitation in the future. The Agency may require EHV Weidmann to perform oil sampling and analyses as appropriate to confirm compliance.

Condition (10) - Restricts the sulfur content of fuel oil burned in the No. 2 oil-fired fuel burning equipment located at the Facility. No. 2 oil-fired fuel burning equipment may not burn fuel oil with a sulfur content greater than 0.5% by weight.

EHV Weidmann has stated that it complies with this standard based on the restrictions in their Permit to Construct and their contract with fuel suppliers.

The continued use of these methods are sufficient to ensure compliance with this limitation in the future. The Agency may require EHV Weidmann to perform oil sampling and analyses as appropriate to confirm compliance.

Condition (11) - Requires EHV Weidmann to notify the Agency in writing of the initial start-up of the planned fabric filter to be located within the Recycling Building.

EHV plans to comply with this requirement.

The Agency will ensure compliance with this requirement in the future during any inspections of the Facility.

Condition (12) - Requires EHV Weidmann to maintain a logbook of maintenance performed and monthly observations of the pressure drop across each fabric filter.

EHV Weidmann has stated that it complies with this requirement.

The Agency will verify compliance with this standard in the future during any inspections of the Facility.

Condition (13) - Requires EHV Weidmann to maintain a logbook of maintenance performed on the fuel burning equipment at the Facility.

EHV Weidmann has stated that it complies with this requirement.

The Agency will verify compliance with this standard in the future during any inspections of the Facility.

Condition (14) - Record keeping requirements for material usage, fuel consumption, and board production.

EHV Weidmann has stated that it complies with this requirement.

The Agency will ensure compliance with this requirement in the future during any inspections of the Facility. The Agency requests the submittal of above noted records as part of the Agency's registration program required under Subchapter VIII of the *Regulations.*

Condition (15) - Requirement to register if actual emissions are greater than or equal to 5 tpy for the preceding calendar year.

EHV Weidmann has stated that it complies with this requirement based on the information they have submitted and the fees they have paid for preceding calendar years.

The Agency will ensure compliance with this requirement in the future during any inspections of the Facility.

Condition (16) - Required to notify the Agency of any proposed physical or operational change at the Facility which may increase air contaminant emissions.

EHV Weidmann has stated that it complies with this requirement.

The Agency will ensure compliance with this requirement in the future during any inspections of the Facility.

Condition (17) - Required to notify the Agency in writing within ten (10) days of any violation.

Conditions (18) - (22) - Miscellaneous reporting and record keeping requirements, including compliance certifications.

EHV Weidmann has stated that it complies with this requirement.

The Agency will ensure compliance with this requirement in the future during any inspections of the Facility.

Condition (23) - Requires the use of reasonable precautions to minimize the generation of fugitive emissions of PM/PM_{10} and VOCs from the Facility.

EHV Weidmann has stated that it complies with this requirement.

The Agency will ensure compliance with this requirement in the future during any inspections of the Facility.

Conditions (24) and (25) - Prohibits the discharge of air contaminants that would be a nuisance to the general public or a source of objectionable odors.

EHV Weidmann has stated that it complies with this requirement due to their observation of dust and odors from their operations.

The Agency will verify compliance with this requirement in the future during any inspections of the Facility. Additionally, the Agency investigates all complaints that it receives in order to determine whether or not there is a violation of this requirement.

Condition (26) - Prohibition of circumvention.

Condition (27) and (28) - Prohibition of opening burning and permissible open burning.

Condition (29) - Motor vehicle requirements.

Condition (32) - Stratospheric ozone protection measures.

Condition (33) - Permit shield condition.

EHV Weidmann has stated that it complies with the requirements in conditions (26) through (33).

The Agency will verify compliance with this standard in the future during any inspections of the Facility.

Conditions (34) through (48) - Agency standard conditions.

Federal Air Pollution Control Regulations

***Clean Air Act*, Title I - Air Pollution Prevention and Control, Part A - Air Quality and Emission Limitations, §111 - Standards of Performance for New Stationary Sources**. EHV Weidmann is subject to one applicable federal new source performance standards established under §111 of the federal *Clean Air Act* and promulgated within Title 40 *Code of Federal Regulations* ("*CFR*") Part 60.

40 *CFR* Part 60 Subpart Dc - The replacement boiler (19.4 MMBTU/hr boiler) is considered an affected facility subject to 40 *CFR* Part 60 Subpart Dc - Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units. Subpart Dc specifies emission limitations for PM/PM_{10}, SO_2, and opacity, as well as monitoring, record keeping, notification and reporting requirements. Applicability to Subpart Dc also subjects EHV Weidmann to the general notification, record keeping, and other requirements of 40 *CFR* Part 60 Subpart A.

EHV Weidmann has stated that it complies with these requirements.

The Agency will incorporate the applicable requirements of 40 *CFR* Part 60 Subpart A and Dc within any permit issued to EHV Weidmann approving the proposed modifications.

Section 112 of the Clean Air Act - National Emission Standards for Hazardous Air Pollutants (NESHAPs)

No promulgated NESHAPs in 40 *CFR* Part 61 currently apply to EHV Weidmann.

There are currently no promulgated NESHAPs in 40 *CFR* Part 63 that apply to EHV Weidmann. The NESHAPs in 40 *CFR* Part 63 identify the "maximum achievable control technology" ("MACT") standards for major sources of hazardous air pollutants ("HAPs").

Although there is currently no MACT standard that applies to EHV Weidmann, the U.S. EPA has proposed a MACT standard for the pulp and paperboard industry. Also, the U.S. EPA has identified EHV Weidmann as a potential source subject to this proposed MACT standard. In response to U.S. EPA's proposed NESHAP, EHV Weidmann investigated its emissions from the pulping operations and stated that the proposed MACT standard for the pulp and paperboard industry does not apply to them. This determination was based upon the fact that the Facility engages in no pulping, no bleaching, and the boardmaking operations result in negligible emissions (only trace amounts of acetone released). The Agency concurs with this assessment, and therefore, this Facility does not qualify as a major source for the pulp and paperboard MACT standard.

Although EHV Weidmann is not a major source from the paperboard making lines, it should be noted that "allowable" emissions of styrene (a federal HAP) exceed 10 tpy from the laminating operations. Since these emissions are from board laminating and not the board making lines, these emissions do not qualify the Facility under the pulp and

paperboard MACT standard. Ultimately, EHV Weidmann will be required to achieve MACT for styrene at sometime in the future if either the U.S. EPA adopts a MACT standard that applies to the laminating operations, or a case-by-case MACT determination is required as a consequence of new source review (i.e., Subchapter V of the *Regulations* - Permit to Construct/Modify). The proposed modification will not result in an emissions increase of styrene from the Facility, and therefore, does not trigger the case-by-case MACT determination.

40 *CFR* Part 64 - Compliance Assurance Monitoring. Pursuant to requirements concerning enhanced monitoring and compliance certification under the *Clean Air Act* ("*CAA*"), EPA promulgated new regulations and revised regulations on October 22, 1997. These new requirements implemented compliance assurance monitoring ("CAM") for major stationary sources of air pollution that are required to obtain operating permits under Title V of the *CAA*. Subject to certain exemptions, the new regulations require owners or operators of such sources to conduct monitoring that satisfies particular criteria established in the rule as a means of providing a reasonable assurance of compliance with applicable requirements. Compliance assurance monitoring is proposed to focus on emissions units that rely on pollution control equipment to achieve compliance with applicable standards. The regulations also provide procedures for coordinating these new requirements with the operating permit program regulations. As a result of comments received during the rule making process and the lengthy delay in the adoption of the CAM rule, U.S. EPA provided an extended implementation schedule for this rule. Facilities which had submitted a complete operating permit application prior to April 20, 1998, were not required to address CAM as part of their initial operating permit application, unless they proposed to make significant changes to the facility subsequent to this date and the facility operated “large” pollutant specific emission units (“PSEU”). A “large PSEU” is defined as a unit with post control emissions greater than or equal to the major source threshold.

§64.2 in 40 *CFR* Part 64 specifies that each PSEU at a facility that meets a three-part test is subject to the requirements for CAM. An emission unit must:

(A) Be subject to an emission limitation or standard,
(B) Use a control device to achieve compliance, and
(C) Have **pre-control** emissions that exceed or are equivalent to the major source threshold in 40 *CFR* Part 70 (i.e., 10 tpy individual HAP, 25 tpy total HAPs, 50 tpy VOCs, or 100 tpy for any other air contaminant).

Note that the term “control device” means equipment, other than inherent process equipment, that is used to destroy or remove air pollutant(s) prior to discharge to the atmosphere. The term “control device” does not include passive methods such as lids or seals, use of low-polluting fuels or inherent process equipment provided for safety or material recovery. Additionally, the CAM rule provides some exemptions, such as an exemption for any affected facility subject to an NSPS or NESHAP promulgated after November 15, 1990.

Since EHV Weidmann does not meet the above three part test for its boilers and transformer board manufacturing operations, it is not subject to the requirements for

CAM.

5.2 Citation and Identification of Requirements For Which a Permit Shield Provision Has Been Requested

Pursuant to §5-1015(a)(11) of the *Regulations*, an owner/operator may request to be shielded from specific state or federal requirements which do not apply to the subject source. If the applicability of a regulatory requirement is unclear to the applicant, when appropriate, the Agency may grant a permit shield stating that the requirement does not apply to the source. Once a permit shield is granted, the Agency may not initiate any enforcement action against the Facility based upon a regulation or standard covered by the permit shield. The Agency would be required to amend the Permit to Operate and incorporate the applicable requirement prior to initiating any enforcement action for non-compliance with the applicable requirement. The Agency's permit shield determinations are based upon the information submitted by the owner/operator in its operating permit application. The resulting permit shield shall be effective only with respect to activities disclosed in the application.

It is the Agency's procedure to grant permit shields only for those requirements or standards which conceivably could apply to the Facility, and the Agency has made a determination that such requirement does not in fact apply. The Agency does not intend to grant permit shields for those requirements that clearly do not apply to the Facility. For example, an asphalt plant will not be granted a permit shield from a regulation applying to a dry cleaning operation.

EHV Weidmann has requested to be shielded from several potentially applicable requirements. These are identified in Exhibit D of the operating permit application filed on February 12, 1996. For the reasons stated in the preceding paragraph, the Agency did not grant a permit shield, in the subsequently issued operating permit, for each of the requirements requested in EHV Weidmann's application. The Agency granted a permit shield for the state and federal regulations listed in Table 5-1 below. These permit shields will be continued into any permit issued by the Agency granting approval for the proposed boiler replacement, with one exception. The Agency will remove the permit shield granted for 40 *CFR* Part 60 Subpart Dc, since the new boiler will be subject to this requirement. The permit shields shall be binding only with respect to the activities disclosed in EHV Weidmann's application. Where the Agency has denied a shield, the basis for the determination is explained in the Agency's Technical Analysis dated May 11, 1999.

Table 5-1: Permit Shield Determinations

Requirement for Which a Permit Shield has been Requested	Description of Requirement	Agency's Permit Shield Determination
§5-241(3) of *Regulations*	Prohibition of Nuisance and Odor - Control of Odor from Industrial Processes	Granted

Requirement for Which a Permit Shield has been Requested	Description of Requirement	Agency's Permit Shield Determination
§5-251(1) of *Regulations*	Control of Nitrogen Oxide Emissions	Granted
§5-251(3) of *Regulations*	Control of Nitrogen Oxide Emissions - Reasonably Available Control Technology for Large Stationary Sources	Granted
§5-252 of *Regulations*	Control of Sulfur Dioxide Emissions	Granted
§5-253.10 of *Regulations*	Control of VOCs - Paper Coating	Granted
§5-253.14 of *Regulations*	Control of VOCs - Solvent Metal Cleaning	Granted
§5-253.20 of *Regulations*	Control of VOCs - Other Sources That Emit Volatile Organic Compounds	Granted

5.3 Description of Alternative Operating Scenarios and Related Applicable Requirements Not Previously Identified

EHV Weidmann requested the below listed alternative operating scenarios as part of its application for a Permit to Operate.

1. EHV Weidmann projects that boardmaking production will increase 10% annually for the next seven (7) years. At the seventh year (2002) total production of boards will be approximately 45.7 million pounds of board. This is a 114% increase in production from 1994.

2. EHV Weidmann projects that the laminating line will increase production a maximum of 50% over the next seven (7) years. EHV Weidmann expects to add another shift to accommodate the increase in production.

3. The production of NOMEX boards has the potential to triple over the next seven (7) years. To compensate for the increase in production, the NOMEX production will either be operating more hours per day or more days per year. In either case, the maximum production rate will still be 130.4 lbs/hr.

4. With the projected increase in boardmaking production, the demand for process steam will also increase. It is assumed that the quantity of process steam produced is linearly proportional to the pounds of boards produced. Since an overall increase in board production is projected to be approximately 114%, a 114% increase in fuel usage and steam production is anticipated.

5. The projected increase in boardmaking production may result in the installation of new machining equipment and a corresponding increase in the quantity of PM/PM_{10} emissions being vented to the existing fabric filter collectors. The increase in production may also necessitate the installation of a new collector.

6. With the projected increase in boardmaking production, the usage of adhesives is anticipated to increase. It is assumed that the quantity of adhesive usage is linearly proportional to the pounds of boards produced. Since an overall increase in board production is projected to be approximately 114%, a 114% increase in adhesive usage is projected.

The following summarizes the Agency's determination regarding the incorporation of the above identified alternative operating scenarios within the Permit to Operate. Increases in the hours of operation and/or production need not be included as an alternative operating scenario within the Permit to Operate, if such changes are made without the installation of new equipment and are not prohibited by a term or condition of a Permit. The definition of modification in §5-101 of the *Regulations* allows such changes in the method of operation without triggering new source review pursuant to 10 *V.S.A.* §556 and §5-501 of the *Regulations*. If such changes will necessitate the installation of additional equipment or will result in an exceedance of a permit term or limit, then EHV Weidmann must contact the Agency in order to determine if such modification would qualify for new source review.

The current Permit to Construct and Operate provides some operational flexibility for the source to accommodate an increase in production at the Facility. The Permit to Construct and Operate limits VOC and acetone emissions to less than 50 tpy each, allowable emissions from the boilers assume nearly continuous operation, and the fabric filters are limited based upon maximum discharge rates. There are no limits on the production rate of any equipment or hours of operation. As long as VOC, acetone, and fabric filter PM/PM_{10} discharge rates remain below their respective limits, and no new equipment is installed, EHV Weidmann may increase its board production. If increased production will, for example, require a new boiler or an increase in the emissions limits, then EHV Weidmann will be required to amend its existing Permit to Construct and Operate and be subjected to the requirements of new source review.

5.4 Equivalency and Streamlining

Particulate Matter

PM/PM_{10} emission limits for the residual oil-fired boilers are identified in Condition (4) of the existing Permit to Construct and Operate for the Facility. The limits within Condition (4) are more stringent and therefore overrule the limits derived from §5-231(3)(a)(ii) of the *Regulations*.

PM/PM_{10} emission limits for three fabric filter collectors (#M41 in the Main Building and two collectors at the Fab North Building) are identified in Condition (3) of the existing Permit to Construct and Operate for the Facility. The limits within Condition (3) are more stringent and therefore overrule the limits derived from §5-231(1)(b) of the *Regulations*.

Sulfur Content

For the replacement boiler, EHV Weidmann proposes to comply with 40 *CFR* Part 60 through the purchase and use of low sulfur residual oil (maximum sulfur content of 0.5% by weight or less). This restriction will be incorporated as a condition of any permit

issued approving the installation of the replacement boiler. This proposed restriction is more stringent than and therefore overrules the limit specified in §5-221(1) of the *Regulations*.

6.0 HAZARDOUS AIR CONTAMINANTS

§5-261 of the *Regulations* addresses the release of hazardous air contaminants ("HACs") into the ambient air. Unless specifically exempted from §5-261, the owner or operator of a source must quantify its emissions of HACs regulated by this rule. Any source whose actual emission rate of a HAC exceeds its respective Action Level ("AL") is subject to the rule for that HAC, and the owner or operator of the source must then demonstrate that emissions of the HAC are minimized to the greatest extent practicable. This process is termed the "Hazardous Most Stringent Emission Rate" or HMSER. An air quality impact evaluation may also be required to further assess the ambient impacts that may be attributable to the source. The evaluation of the air quality impacts is performed using the Hazardous Ambient Air Standards ("HAAS") or Stationary Source Hazardous Air Impact Standard ("SSHAIS") contained in the *Regulations*.

6.1 Quantification of Hazardous Air Contaminant ("HAC") Emissions

Solid fuel burning equipment (not including incinerators) installed or constructed prior to January 1, 1993, and all fuel burning equipment which combusts virgin liquid or gaseous fuel is exempted from review pursuant to §5-261(1)(b)(ii) of the *Regulations*. Based on this exemption, no fuel burning equipment used at the Facility qualified for review of HAC emissions under §5-261 of the *Regulations*.

The production of transformer boards does result in the discharge of HACs from the laminating line, Nomex board production, and general usage of adhesives on-site. These emissions have been quantified and compared to their respective Action Levels in order to determine applicability to §5-261 of the *Regulations*. Emissions of PM/PM_{10} resulting from the board machining equipment were not considered, since such emissions are not classified as a HAC in Appendix B of the *Regulations*.

Summarized in Table 6-1 are the estimated HAC emissions resulting from the production process, as well as a comparison to the respective AL. The values in Table 6-1 were derived from a 1999 inspection report conducted by the Agency (last report on file). It should be noted that with the anticipated increase in production identified in paragraph 5.3 above, the actual emission rate of any particular HAC may increase over the next seven (7) years. In order to address the Agency's concern with any potential exceedance of an AL in the future, EHV Weidmann will be required to certify at least once each year that it complies with the requirements of §5-261 of the *Regulations.*

Table 6-1: Comparison of HAC Emission Rates to Action Levels

Constituent	CAS#	Emission Rate (lbs/8-hrs)	Action Level (lbs/8-hrs)
Vinyl acetate	108-05-4	0.3	14.7
Styrene	100-42-5	24	42.5
Acetone	67-64-1	68	7,480

Dimethyl acetamide	127-19-5	0.8	N/A

Based upon the information in Table 6-1 above, EHV Weidmann does not currently produce emissions in excess of any AL. Therefore, EHV Weidmann is not subject to §5-261 of the *Regulations*.

6.2 Federal Hazardous Air Pollutants

Although exempt from §5-261 of the *Regulations*, the U.S. EPA has identified industrial-institutional-commercial boilers as a potential source that will be regulated by a "maximum achievable control technology" ("MACT") standard in the future. Emissions of federally regulated HAPs have been estimated for the No. 6 oil-fired boilers, the units most likely to be regulated by the federal MACT standard, and summed with VOC HAPs produced by the board production process. See Table 6-2 below for a summary of HAP emissions from the Facility. Currently, total HAP emissions from the Facility are estimated to be less than 25 tpy, and no individual HAP is emitted at a rate of 10 tpy or greater. It should be noted, however, that with the anticipated increase in production identified in paragraph 5.3 above, the actual emission rates of HAPs will increase. It is anticipated that EHV Weidmann may produce emissions of styrene in excess of 10 tpy in the future, and thus may be subject to achieving the MACT for styrene. Based upon maximum potential emissions of HAPs from the boilers, it does not appear that EHV Weidmann will be a major source of HAPs due to fuel combustion.

Table 6-2: HAP Emission Rates

Constituent	CAS#	Emission Rate (tpy)
Antimony	0	0.0067
Arsenic	0	0.0017
Benzene	71-43-2	0.00027
Beryllium	0	0.000036
Cadmium	0	0.00051
Chromium	0	0.00083
Cobalt	0	0.0077
Ethylbenzene	100-41-4	0.00082
Formaldehyde	50-00-0	0.001
Lead	0	0.0019
Manganese	0	0.0039
Mercury	0	0.00015
Naphthalene	91-20-3	0.0015

Constituent	CAS#	Emission Rate (tpy)
Nickel	0	0.11
o-Xylene	1330-20-7	0.00014
Polycyclic Organic Matter (POM)	0	0.0017
Selenium	0	0.00088
Styrene	100-42-5	7*
1,1,1-Trichloroethane	71-55-6	0.00030
Toluene	108-88-3	0.0080
Vinyl acetate	108-05-4	0.07*
TOTAL	----	7

* Includes the actual emission rate from 1999.

7.0 REASONABLY AVAILABLE CONTROL TECHNOLOGY

At this time, the Agency has not established a Reasonably Available Control Technology ("RACT") requirement applicable to this Facility under §5-1010 of the *Regulations*. Therefore, the Facility is currently in compliance with this requirement. The Agency will notify EHV Weidmann if any applicable RACT requirement applies to this Facility in the future. If such RACT should apply to the source in the future, the Agency will ensure that EHV Weidmann complies with such requirement at that time.

8.0 AMBIENT AIR QUALITY IMPACT EVALUATION (Criteria Pollutants)

An air quality impact evaluation is performed to demonstrate whether or not a proposed project will cause or contribute to violations of the ambient air quality standards and/or significantly deteriorate existing air quality. The Agency's implementation procedures concerning the need for an ambient air quality impact evaluation under §5-501 of the *Regulations*, specifies that such analyses shall be performed when project results in allowable emissions increase of ten (10) tpy or more of any air contaminant, excluding VOCs. Additionally, the Agency may require an air quality impact evaluation where the short-term allowable emission rates will significantly increase as a result of a project. The Agency has not required an air quality impact evaluation as part of the application for the proposed modifications, since site-wide allowable emissions will decrease.

9.0 COMPLIANCE PLAN

9.1 Description of the Compliance Status for Each Applicable Requirement

See paragraph 5.0 above.

9.2 Compliance Schedule For Each Applicable Requirement for Which the Source is Not in Compliance

Not applicable to this Facility.

10.0 PUBLIC PARTICIPATION

The Facility operated by EHV Weidmann is classified as a "Title V Subject Source," and consequently, any application for a Permit to Operate this Facility is subject to the public participation requirements of §5-1007 of the *Regulations*. As required by this section, the Agency published noticed on October 31, 2000, in the *Caledonian Record* that it had received an administratively complete application from EHV Weidmann. Additionally, the Agency notified the affected states of New Hampshire, Massachusetts, and New York of the receipt of this application on October 26, 2000. On November 6, 2000, the Agency determined it received sufficient information to declare the application technically complete.

On November 9, 2000, the Agency published notice in the *Caledonian Record* informing the public of the Agency's plans to issue a draft Air Pollution Control Permit to Construct and Operate. The notice solicited comments and requests for an informational meeting on the matter. Requests for an informational meeting had to be received in writing on or before December 4, 2000. The Agency notified the affected states (i.e., New Hampshire, New York, and Massachusetts) and the U.S. EPA of its draft decision on November 6, 2000. The public comment period closed on December 8, 2000, without the Agency receiving comments or a request for an informational meeting.

11.0 CONCLUSIONS

Based on the foregoing technical analysis of the proposed modification, the following conclusions are made:

A. The proposed modification, subject to the recommended permit conditions, will meet the applicable emission standards contained in state and federal regulations. Furthermore, it is expected that emissions from the proposed modification will not significantly deteriorate air quality, nor will they cause or contribute to a violation of an ambient air quality standard.

B. Pursuant to regulatory definition, the proposed project is designated as a non-major modification to an existing major stationary source.

C. Recommended Permit Conditions - See draft permit.

Consistent with 10 V.S.A. §556(e) and for the purposes of reducing the administrative burden of enforcing two separate permits, the Agency proposes to issue a combined the issuance of the Air Pollution Control Permit to Construct with the Air Pollution Control Permit to Operate.

APPENDICES

Appendix A

Figure 1 - Plant Location (USGS Map)

Figure 2 - Plant Layout

Figure 4 - Boardmaking Line #1 Process Flow

Figure 5 - Boardmaking Line #2 Process Flow

Figure 6 - Laminating Line Process Flow

Figure 7 - Fab West Activities

Figure 8 - Fab North Activities

Figure 9 - Oil Impregnation Process Flow

Appendix B

Table 1 - Allowable Emissions Estimates

Tables 2 & 3 - Complete List of Stacks, Vents and Emission Points

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Table 1 - Existing Allowable Emissions

Facility: EHV Weidmann Industries, Inc., St. Johnsbury Author: JLP

Date: 10/20/2000

FUEL COMBUSTION EMISSIONS

Location:	Main Bldg.	Main Bldg.	Fab North	Fab North	Fab North	Recycle	Training	Recycle
ID. #:	Boiler #1	Boiler #2	Boiler #1	Boiler #2	Boiler #3	Heater #1	Boiler #1	Duct Heater
Fuel	No. 6 Oil	No. 6 Oil	No. 2 Oil	No. 2 Oil	No. 2 Oil	No. 2 Oil	No. 2 Oil	No. 2 Oil
Unit Type:	Boiler	Boiler	Boiler	Boiler	Boiler	Heater	Boiler	Heater
Manuf.:	Clv-Brks	Clv-Brks	Peerless	Peerless				Cox Manuf.
Rated Output (HP):	700	350			25			
Rated HI (MMBTU/hr):	29.3	14.6	2.67	2.67	1.05	0.1	0.13	0.525
Fuel Sulfur (% by wt.):	2	2	0.5	0.5	0.5	0.5	0.5	0.5
Fuel BTU (MMBTU/gal):	0.15	0.15	0.14	0.14	0.14	0.14	0.14	0.14
Max. Firing Rate (gph):	195.5	97.5	19	19	7.58	0.85	1.15	4.5
Potential Hrs. of Operation:	8,760	8,760	8,760	8,760	8,760	8,760	8,760	8,760
Load (%):	100	100	100	100	100	100	100	100
Potential Fuel Combustion:	1,712,580	854,100	166,440	166,440	66,401	7,446	10,074	39,420
Allowable Fuel Combustion:								

Facility Total Fuel Consumption:

No. 6 Oil	2,566,680
No. 2 Oil	456,221

Emissions of all combustion contaminants based on emission factors - Emissions from Cleaver Brooks and Peerless equipment based upon manufacturers emission factors, while the heaters and boilers < 25 hp based upon U.S. EPA emission factors published in AP-42 Section 1.3. (Exception: Duct heater PM emission rate based upon PM limit specified in Section 5-231 of the Regulations and continuous operation)

	Clv-Brks	Peerless	AP-42 Factors		Peerless	Other	
	No. 6 Factors	No. 2 Factors	No. 2 Commercial	No. 6 Oil	No. 2 Oil	No. 2 Oil	Total
	lbs/1000 gals	lbs/1000 gals	lbs/1000 gals	tpy	tpy	tpy	tpy
PM/PM10	31.8	4.2	2	40.8	0.7	1.5	43.0
SO2	307.2	71	71	394.2	11.8	4.4	410.4
Nox	73.4	28	20	94.2	4.7	1.2	100.1
CO	11.2	neg.	5	14.4	neg.	0.3	14.7
NMHCs	5.3	4.1	0.34	6.8	0.7	0.0	7.5
HAPs							

EPA HAP Emissions from Residual Oil-Fired Boilers. Quantified in order to determine whether or not EHV Weidmann is a potential major HAP source and applicability to future MACT standard for industrial fossil fuel-fired boilers. Emissions from distillate oil-fired equipment were not considered, since these units would not likely be considered within the MACT standard (i.e., too small). Emissions derived from AP-42 emission factors published in Table 1.3-8. Emission based upon unlimited operation at full load (equivalent to 2,566,680 gpy of No. 6 Oil)

POLLUTANT	AP-42 EMISSION FACTOR (lbs/1000 gals)	BOILER #1 EMISSION RATE (lbs/hr)	BOILER #2 EMISSION RATE (lbs/hr)	TOTAL EMISSION RATE (tpy)
POM	0.0013	0.00	0.00	0.00
Formaldehyde	0.033	0.01	0.00	0.04
Benzene	0.000214	0.00	0.00	0.00
Ethylbenzene	0.0000636	0.00	0.00	0.00
Naphthalene	0.00113	0.00	0.00	0.00
1,1,1-Trichloroethane	0.000236	0.00	0.00	0.00
Toluene	0.0062	0.00	0.00	0.01
o-Xylene	0.000109	0.00	0.00	0.00
Antimony	0.00525	0.00	0.00	0.01
Arsenic	0.00132	0.00	0.00	0.00
Beryllium	0.0000278	0.00	0.00	0.00
Cadmium	0.000398	0.00	0.00	0.00
Chromium	0.000845	0.00	0.00	0.00
Cobalt	0.00602	0.00	0.00	0.01
Lead	0.00151	0.00	0.00	0.00
Manganese	0.003	0.00	0.00	0.00
Mercury	0.000113	0.00	0.00	0.00
Nickel	0.0845	0.02	0.01	0.11
Selenium	0.000683	0.00	0.00	0.00
TOTAL HAPs	0.15			0.19

PROCESS EMISSIONS

Fabric Filter Collectors: Emissions have been estimated based on a maximum permitted PM discharge concentration for each fabric filter collector.

ID#	Collector ID.	Air Flow Rate, acfm	Discharge Rate gr/dscf	Hours of Operation	PM (lbs/hr)	PM (tpy)
Proposed	AGET FT-64-D1	4,900	0.02	8,760	0.84	3.7
FN	232RFW8	25,000	0.02	8,760	4.3	18.8
M51	72RJ96	15,000	0.06	8,760	7.7	33.8
M41	72RJ60	15,560	0.02	8,760	2.7	11.7
FN15	232RFT8	26,000	0.02	8,760	4.5	19.5
				Total PM from Fabric Filter Collectors:		87.4 tpy

Laminating Line/NOMEX boards/Gluing Operations: Allowable emissions to be limited based on facility-wide restrictions of <50 tpy VOCs and <50 tpy acetone.
For comparison purposes, actual emissions of VOCs and acetone were 6.9 tpy and 18 tpy in 1998 (Data used in last inspection report).

TOTAL FACILITY ALLOWABLE EMISSIONS, tons/year

	PM/PM10	SO2	Nox	CO	VOCs	Acetone	Total HAPs
Fuel	43.0	410.4	100.1	14.7	7.5	0	0.19
Fabric Filters	87.4	0	0	0	0	0	0
Process	0	0	0	0	+/- 42.5	49	24
TOTAL	130.4	410.4	100.1	14.7	<50	<50	<25

Table 2 - New Allowable Emissions

Facility: EHV Weidmann Industries, Inc., St. Johnsbury Author: JLP
Date: 10/20/2000

FUEL COMBUSTION EMISSIONS

Location:	Main Bldg.	
ID. #:	Boiler #2	(replacement for existing Boiler #2)
Fuel	No. 6 Oil	
Unit Type:	Fire tube boiler	
Manuf.:	Johnston	
Model:	PFTA500-4	
Rated Output (HP):	500	
Rated HI (MMBTU/hr):	19.4	
Fuel Sulfur (% by wt.):	0.5	
Fuel BTU (MMBTU/gal):	0.15	
Max. Firing Rate (gph):	130	
Potential Hrs. of Operation:	8,760	
Load (%):	100	
Potential Fuel Combustion:	1,138,800	
Proposed Fuel Use Limit:	558,500	

Emissions of all combustion contaminants based on emission factors - Emissions from Cleaver Brooks and Peerless equipment based upon manufacturers emission factors, while the heaters and boilers < 25 hp based upon U.S. EPA emission factors published in AP-42 Section 1.3. (Exception: Duct heater PM emission rate based upon PM limit specified in Section 5-231 of the Regulations and continuous operation)

	Johnston Emission Rates lbs/hr	Emission Rates No. 6 Oil lbs/MMBTU	tpy
PM/PM10	2.35	0.121	5.1
SO2	10.1	0.521	21.8
Nox	10.2	0.526	22.0
CO	0.78	0.040	1.7
NMHCs	0.2	0.010	0.4

Table 3: Aggreagted Emissions Increase

Step a) Calculate allowable emissions for new equipment.

Air Contaminant Emissions, tons/year				
PM/PM10	SO2	Nox	CO	NMHCs
5.1	21.8	22	1.7	0.4

Step b) Calculate allowable emissions for all existing processes that are affected by the modification.

Not applicable.

Step c) Calculate actual emissions for existing equipment that are affected by the modification but which were installed prior to 7/1/79 or have been previously reviewed under § 5-502.

Not applicable.

Step d) Calculate allowable emissions from all other equipment at the site added to the site since 7/1/79 or have not been reviewed under § 5-502.

(2) Peerless Boilers; 25 HP Boiler; Recycling Center Heater; Training Center Heater; Nomex Board Manufacturing Line approved 8/21/1996. See Agency's Technical Analysis dated July 17, 1996.

Air Contaminant Emissions, tons/year				
PM/PM10	SO2	Nox	CO	NMHCs
0	12	5.5	0.2	3.6

NOTE: PM/PM10 emissions are not counted, since were included in determine previous modification as major.

Recycle Bldg. Fabric Filter and Duct Heater approved 12/30/1998. See Agency's Technical Analysis dated same date.

Air Contaminant Emissions, tons/year				
PM/PM10	SO2	Nox	CO	NMHCs
4.9	1.4	0.39	0.1	2.9

Total Emissions Increase From Prior Modifications

Air Contaminant Emissions, tons/year				
PM/PM10	SO2	Nox	CO	NMHCs
4.9	13.4	5.89	0.3	6.5

Step e) Calculate size of modification - Step a) + Step b) - Step c) + Step d)

Aggregated PM/PM10 Emissions Increase =	5.1 +	0 +	0 +	4.9 =	10	tons/year
Aggregated SO2 Emission Increase =	21.8 +	0 +	0 +	13.4 =	35.2	tons/year
Aggregated NOx Emission Increase =	22 +	0 +	0 +	5.89 =	27.9	tons/year
Aggregated CO Emission Increase =	1.7 +	0 +	0 +	0.3 =	2	tons/year
Aggregated VOCs Emission Increase =	0.4 +	0 +	0 +	6.5 =	6.9	tons/year

Table 4 - Future Allowable Emissions

Facility: EHV Weidmann Industries, Inc., St. Johnsbury Author: JLP

Date: 10/20/2000

FUEL COMBUSTION EMISSIONS

Location:	Main Bldg.	Main Bldg.	Fab North	Fab North	Fab North	Recycle	Training	Recycle
ID. #:	Boiler #1	Boiler #2	Boiler #1	Boiler #2	Boiler #3	Heater #1	Boiler #1	Duct Heater
Fuel	No. 6 Oil	No. 6 Oil	No. 2 Oil	No. 2 Oil	No. 2 Oil	No. 2 Oil	No. 2 Oil	No. 2 Oil
Unit Type:	Boiler	Fire Tube	Boiler	Boiler	Boiler	Heater	Boiler	Heater
Manuf.:	Clv-Brks	Johnston	Peerless	Peerless				Cox Manuf.
Rated Output (HP):	700	500			25			
Rated HI (MMBTU/hr):	29.3	19.4	2.67	2.67	1.05	0.1	0.13	0.525
Fuel Sulfur (% by wt.):	2	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Fuel BTU (MMBTU/gal):	0.15	0.15	0.14	0.14	0.14	0.14	0.14	0.14
Max. Firing Rate (gph):	195.5	130	19	19	7.58	0.85	1.15	4.5
Potential Hrs. of Operation:	8,760	8,760	8,760	8,760	8,760	8,760	8,760	8,760
Load (%):	100	100	100	100	100	100	100	100
Potential Fuel Combustion:	1,712,580	1,138,800	166,440	166,440	66,401	7,446	10,074	39,420
Allowable Fuel Combustion:		558,500						

Facility Total Fuel Consumption:

No. 6 Oil	2,271,080
No. 2 Oil	456,221

Emissions of all combustion contaminants based on emission factors - Emissions from Cleaver Brooks, Johnston and Peerless equipment based upon manufacturers emission factors, while the heaters and boilers < 25 hp based upon U.S. EPA emission factors published in AP-42 Section 1.3. (Exception: Duct heater PM emission rate based upon PM limit specified in Section 5-231 of the Regulations and continuous operation)

	Clv-Brks	Johnston	Peerless	AP-42 Factors	CB + Jhnston	Peerless	Other	
	No. 6 Factors	No. 6 Factors	No. 2 Factors	No. 2 Commercial	No. 6 Oil	No. 2 Oil	No. 2 Oil	Total
	lbs/1000 gals	lbs/hr	lbs/1000 gals	lbs/1000 gals	tpy	tpy	tpy	tpy
PM/PM10	31.8	2.35	4.2	2	32.3	0.7	1.5	34.4
SO2	307.2	10.1	71	71	284.7	11.8	4.4	300.9
Nox	73.4	10.2	28	20	84.8	4.7	1.2	90.7
CO	11.2	0.78	neg.	5	11.3	neg.	0.3	11.6
NMHCs	5.3	0.2	4.1	0.34	5.0	0.7	0.0	5.7

EPA HAP Emissions from Residual Oil-Fired Boilers. Quantified in order to determine whether or not EHV Weidmann is a potential major HAP source and applicability to future MACT standard for industrial fossil fuel-fired boilers. Emissions from distillate oil-fired equipment were not considered, since these units would not likely be considered within the MACT standard (i.e., too small). Emissions derived from AP-42 emission factors published in Table 1.3-8. Emissions based upon unlimited operation at full load for Boiler #1 and proposed fuel use limit for Boiler #3.

POLLUTANT	AP-42 EMISSION FACTOR (lbs/1000 gals)	BOILER #1 EMISSION RATE (lbs/hr)	BOILER #2 EMISSION RATE (lbs/hr)	TOTAL EMISSION RATE (tpy)
POM	0.0013	0.00	0.00	0.00
Formaldehyde	0.033	0.01	0.00	0.04
Benzene	0.000214	0.00	0.00	0.00
Ethylbenzene	0.0000636	0.00	0.00	0.00
Naphthalene	0.00113	0.00	0.00	0.00
1,1,1-Trichloroethane	0.000236	0.00	0.00	0.00
Toluene	0.0062	0.00	0.00	0.01
o-Xylene	0.000109	0.00	0.00	0.00
Antimony	0.00525	0.00	0.00	0.01
Arsenic	0.00132	0.00	0.00	0.00
Beryllium	0.0000278	0.00	0.00	0.00
Cadmium	0.000398	0.00	0.00	0.00
Chromium	0.000845	0.00	0.00	0.00
Cobalt	0.00602	0.00	0.00	0.01
Lead	0.00151	0.00	0.00	0.00
Manganese	0.003	0.00	0.00	0.00
Mercury	0.000113	0.00	0.00	0.00
Nickel	0.0845	0.02	0.01	0.10
Selenium	0.000683	0.00	0.00	0.00
TOTAL HAPs	0.15			0.17

PROCESS EMISSIONS

Fabric Filter Collectors: Emissions have been estimated based on a maximum permitted PM discharge concentration for each fabric filter collector.

ID#	Collector ID.	Air Flow Rate, acfm	Discharge Rate gr/dscf	Hours of Operation	PM (lbs/hr)	PM (tpy)
Proposed	AGET FT-64-D1	4,900	0.02	8,760	0.84	3.7
FN	232RFW8	25,000	0.02	8,760	4.3	18.8
M51	72RJ96	15,000	0.06	8,760	7.7	33.8
M41	72RJ60	15,560	0.02	8,760	2.7	11.7
FN15	232RFT8	26,000	0.02	8,760	4.5	19.5
			Total PM from Fabric Filter Collectors:			87.4 tpy

Laminating Line/NOMEX boards/Gluing Operations: Allowable emissions to be limited based on facility-wide restrictions of <50 tpy VOCs and <50 tpy acetone.

TOTAL FACILITY ALLOWABLE EMISSIONS, tons/year

	PM/PM10	SO2	Nox	CO	VOCs	Acetone	Total HAPs
Fuel	34.4	300.9	90.7	11.6	5.7	0	0.17
Fabric Filters	87.4	0	0	0	0	0	0
Process	0	0	0	0	+/- 42.5	49	24
TOTAL	121.9	300.9	90.7	11.6	<50	<50	<25