



STATE OF MAINE
DEPARTMENT OF ENVIRONMENTAL PROTECTION

PAUL R. LEPAGE
GOVERNOR

PATRICIA W. AHO
COMMISSIONER

**Formed Fiber Technologies, LLC
Androscoggin County
Auburn, Maine
A-678-71-M-R/A (SM)**

**Departmental
Findings of Fact and Order
Air Emission License
Renewal / Amendment**

After review of the air emissions license renewal application, staff investigation reports and other documents in the applicant's file in the Bureau of Air Quality, pursuant to 38 M.R.S.A., §344 and §590, the Department finds the following facts:

I. REGISTRATION

A. Introduction

Formed Fiber Technologies, LLC (FFT) has applied to renew their Air Emission License permitting the operation of emission sources associated with their non-woven fiber products facility.

The equipment addressed in this license is located at 125 Allied Road, Auburn, Maine.

FFT has also requested an amendment to their license to increase production limits for the Struto thermobonder from 800 to 1200 pounds per hour, and to add three new thermobonders to the facility.

B. Emission Equipment

The following equipment is addressed in this air emission license:

AUGUSTA
17 STATE HOUSE STATION
AUGUSTA, MAINE 04333-0017
(207) 287-7688 FAX: (207) 287-7826
RAY BLDG., HOSPITAL ST.

BANGOR
106 HOGAN ROAD, SUITE 6
BANGOR, MAINE 04401
(207) 941-4570 FAX: (207) 941-4584

PORTLAND
312 CANCO ROAD
PORTLAND, MAINE 04103
(207) 822-6300 FAX: (207) 822-6303

PRESQUE ISLE
1235 CENTRAL DRIVE, SKYWAY PARK
PRESQUE ISLE, MAINE 04679-2094
(207) 764-0477 FAX: (207) 760-3143

Fuel Burning Equipment

<u>Equipment</u>	<u>Max. Capacity (MMBtu/hr)</u>	<u>Max. Firing Rate, scf/hr</u>	<u>Fuel Type, % sulfur</u>	<u>Stack #</u>
TTI Thermobonder	3.0	2,860	Natural Gas, negligible sulfur content	1
KTI Thermobonder	3.0	2,860		
Aztec 2 Thermobonder	2.0	1,900		
Aztec 3 Thermobonder	4.5	4,290		
Aztec 4 Thermobonder	4.3	4,100		
Kiefel 2 Molding Line	4.0	3,810		Kiefel 2
Kiefel 4 Molding Line	4.0	3,810		Kiefel 4
Office Boiler*	0.4	380	Natural Gas, negligible sulfur content	Office Boiler
Jackson Church Space Heater #1	4.0	3,810		None
Jackson Church Space Heater #2	4.0	3,810		
Sterling Space Heater #3	3.24	3,090		

*Insignificant Activity – included for inventory completeness

Generators

<u>Equipment</u>	<u>Max. Capacity (MMBtu/hr)</u>	<u>Firing Rate</u>	<u>Fuel Type, % sulfur</u>	<u>Date of Manufac.</u>	<u>Date of Install.</u>
Emergency Generator	1.0	7.5 gal/hour	Diesel, 0.0015%	2004	2004
Emergency Generator	0.25	240 scf/hr	Nat. Gas, Neg. S	1987	1988
Emergency Generator	0.25	240 scf/hr	Nat. Gas, Neg. S	1993	1994

Process Equipment

<u>Equipment</u>	<u>Production Rate</u> Tons per Year	<u>Pollution Control</u> <u>Equipment</u>	<u>Stack #</u>
TTI Thermobonder	11,640	Fiberbed scrubber	1
KTI Thermobonder	11,160	Fiberbed scrubber	1
Aztec 2 Thermobonder	11,160	Fiberbed scrubber	1
Aztec 3 Thermobonder	2,000	Fiberbed scrubber	1
Aztec 4 Thermobonder	13,140	Fiberbed scrubber	1
Kiefel 2 Molding Line	990	None	Kiefel 2
Kiefel 3 Molding Line	990	None	Kiefel 3
Kiefel 4 Molding Line	990	None	Kiefel 4
Clam #1 Molding Line	280	None	Clam #2
Clam #2 Molding Line	280	None	Clam #2
AMS Molding Line	650	None	None
Baler #1	6,000	Screen filter	None
Baler #2	6,000	Screen filter	None
Struto Thermobonder	5,256	None	Struto #1
Clam #3 Molding Line*	280	None	None
Pinette Thermoformer #2	9,000 (combined)	None	Pinette #2
Pinette Thermoformer #3			Pinette #3
Pinette Thermoformer #4			Pinette #4

*Insignificant Activity – included for inventory completeness

C. Application Classification

The application for FFT includes the licensing of increased emissions and the installation of new or modified equipment. Therefore, the license is considered to be a renewal/amendment of currently licensed emission units and has been processed through *Major and Minor Source Air Emission License Regulations*, 06-096 CMR 115 (as amended).

With the facility fuel use limit, and the production limit on the thermobonders, the facility is licensed below the major source thresholds and is considered a synthetic minor

The modification of a minor source is considered a major or minor modification based on whether or not expected emission increases exceed the “Significant Emission Levels” as defined in the Department’s regulations. The emission increases are determined by subtracting the current licensed emissions preceding the modification from the maximum future licensed allowed emissions, as follows:

<u>Pollutant</u>	<u>Current License (TPY)</u>	<u>Future License (TPY)</u>	<u>Net Change (TPY)</u>	<u>Significance Level (TPY)</u>
PM	17.9	20.2	2.3	100
PM ₁₀	17.9	20.2	2.3	100
SO ₂	0.2	0.2	0.0	100
NO _x	20.8	20.8	0.0	100
CO	16.5	16.5	0.0	100
VOC	35.1	36.8	1.7	50
CO ₂ e	-	22,185	22,185	100,000

This modification is determined to be a minor modification and has been processed as such.

II. BEST PRACTICAL TREATMENT (BPT)

A. Introduction

In order to receive a license, the applicant must control emissions from each unit to a level considered by the Department to represent Best Practical Treatment (BPT), as defined in *Definitions Regulation*, 06-096 CMR 100 (as amended). Separate control requirement categories exist for new and existing equipment as well as for those sources located in designated non-attainment areas.

BPT for new sources and modifications requires a demonstration that emissions are receiving Best Available Control Technology (BACT), as defined in *Definitions Regulation*, 06-096 CMR 100 (as amended). BACT is a top-down approach to selecting air emission controls considering economic, environmental and energy impacts.

BPT for existing emissions equipment means that method which controls or reduces emissions to the lowest possible level considering:

- the existing state of technology;
- the effectiveness of available alternatives for reducing emissions from the source being considered; and
- the economic feasibility for the type of establishment involved.

B. Facility Description

FFT manufactures non-woven textile parts for the automotive manufacturing industry, suitable for applications such as door insulators, under-carpet insulators, hood and trunk liners, etc. Products include needle punched nonwoven fabrics, automotive trunk molded felt substrate, and polyester staple fibers. The primary raw material used is pre- and post-consumer polyester and polypropylene scrap material. Operations at this facility include needle punching, molding, thermoforming, die-cutting, and finishing to manufacture such soft trim parts.

Raw material fibers are initially formed into nonwoven fabric sheets (thermobonding). Bales of fibers are opened and mechanically blended to produce a homogeneous fiber mix with the appropriate proportion of fiber types. The loose fibers are pneumatically conveyed to and from storage bins for additional blending, as required. Then, the fibers are carded, similar to the carding of wool, in which the individual fibers are pulled apart. The resultant fiber batts then enter the needle punch machines, where the fibers are punched onto themselves to form a carpet or felt-like material. Some of the carpets pass through another needling step, in which they are punched onto a substrate of other fiber blends.

The next steps in the production process are thermobonding and molding. Thermobonding is a process by which two dissimilar materials are joined together by heating to a temperature at which they soften, and then adhere to each other upon cooling. No adhesives are used. Molding is a process by which certain products are heated to soften them, similar to bonding but with pressure, and formed into a specific shape which is retained after cooling. These two production steps can occur at similar or different temperatures and conditions, depending on the raw material make-up and desired properties of the finished product.

C. Space Heaters #1, #2 and #3

Spaces Heaters #1, #2 and #3 each have a heat input capacity less than 10 MMBtu/hour and do not produce steam; therefore, these units are not subject to EPA New Source Performance Standards (NSPS) Subpart Dc, for boilers with a heat input of 10 MMBtu/hour or greater, manufactured after June 9, 1989. These units, rated at 4.0, 4.0 and 3.4 MMBtu/hr, vent inside the building and therefore are not be subject to emission or opacity standards. If, in the future, these units are vented outside, an amendment to this license will be required to include emission and opacity standards.

D. Molding Line K2 and K4

The heat sources for Molding Line K2 and K4 fire natural gas and each have a heat input capacity of 4.0 MMBtu/hr, which is less than 10 MMBtu/hr. These units provide process heat and do not produce steam. Therefore, these fuel burning sources are not subject to EPA New Source Performance Standards (NSPS) Subpart Dc, for boilers with a heat input of 10 MMBtu/hr or greater and manufactured after June 9, 1989. Line K2 vents through stack Kiefel #2; Line K4 vents through stack Kiefel #4.

Because the materials being shaped in the molding lines have typically already undergone thermobonding in the sheet formation process, PM and VOC emissions from the molding units are minimal and unquantifiable, since these emissions would have already occurred in the thermobonders. Other PM emissions do not occur because of the characteristics of the molded substances.

BPT for these units is summarized as follows:

1. The BPT emission limits for Molding Lines K2 and K4, firing natural gas, are based on the following:

PM, PM ₁₀	– 1.9 lb/10 ⁶ scf, from AP-42 Table 1.4-1 (dated 07/98), 0.007 lb/hr
SO ₂	– based on firing 0.0015% sulfur, 0.01 lb/MMBtu; 0.002 lbs/hr
NO _x	– 100 lb/10 ⁶ scf, AP-42, Table 1.4-1 (dated 07/98); 0.392 lbs/hr
CO	– 84 lb/10 ⁶ scf, AP-42, Table 1.4-1 (dated 07/98); 0.329 lb/hr
VOC	– 5.5 lb/10 ⁶ scf, AP-42, Table 1.4-1 (dated 07/98); 0.022 lb/hr

2. Visible emissions for each stack (Kiefel #2 and Kiefel #4) shall be limited to 10% on a six (6) minute block average basis, except for no more than one (1) six (6) minute block average in a one (1) hour period.

E. Thermobonders TTI, KTI, Aztec 2, Aztec 3, Aztec 4

FFT operates five thermobonders, ranging in heat input capacity from 2.0 MMBtu/hr to 4.5 MMBtu/hr, which are fueled by natural gas. Emissions from the non-woven products lines utilize a fiberbed scrubber system as pollution control equipment for PM and VOC, which meets the requirement of BACT for the new lines and BPT for the existing lines. Emissions from these five thermobonders exhaust through Stack #1.

The application of heat to the fabric has the potential to produce PM and VOC emissions through volatilization and partial combustion of spin finishes applied to the polymeric fibers. (After initial melting of raw material chips and pellets and extrusion into filaments, the filaments are consolidated into a yarn and sprayed at room temperature with a dilute, water-based spin finish solution which lubricates and provides static suppression of the fibers. The spin finish is a proprietary blend of emulsifiers, lubricants, and antistatic agents, typically 0.5% spin finish and 99.5% water.)

Spin finish emissions consist of micron- and submicron-size condensable organic aerosols; these are considered particulate mists which can contribute to visible emissions. The control technology for these particulate mists, established as BACT in Air Emission License A-678-71-C-A (January 3, 2002), is fiberbed filtration. Fiberbed filtration involves the collection of mist particles on a fibrous surface designed to allow the agglomeration and draining of the collected mist. This results in high capture efficiency of mist particles with little or no control unit operation and maintenance complications. Historical stack test data for the Auburn facility demonstrated 93% control efficiency. Fugitive emissions are minimized by proper system enclosure and ventilation design; thus, the system does not have any quantifiable fugitive emissions.

1. The BPT emission limits for the thermobonders, firing natural gas and exhausting through the fiberbed scrubber system, are based on the following:

PM, PM₁₀ – 1.9 lb/10⁶ scf, from AP-42 Table 1.4-1 (dated 07/98),
SO₂ – based on firing 0.0015% sulfur, 0.0015 lb/MMBtu;
NO_x – 100 lb/10⁶ scf, AP-42, Table 1.4-1 (dated 07/98);
CO – 84 lb/10⁶ scf, AP-42, Table 1.4-1 (dated 07/98);
VOC – 5.5 lb/10⁶ scf, AP-42, Table 1.4-1 (dated 07/98)

- Emissions from Thermobonders TTI, KTI, Aztec 2, Aztec 3, and Aztec 4, exhausting through Stack #1, shall be limited to the following:

PM/PM ₁₀	8.08 lb/hr
SO ₂	0.01 lb/hr
NO _x	1.65 lb/hr
CO	1.38 lb/hr
VOC	11.4 lb/hr

- Compliance shall be based on stack testing. PM and VOC testing shall be performed once every five (5) years.

PM testing shall be performed in accordance with EPA Methods 5 and 202.

VOC testing shall be performed in accordance with EPA Method 25A modified by using chilled impingers like those used in Method 202 or other method approved by the Department to remove condensable PM. Methane shall be quantified using EPA Method 18 or other method approved by the Department. The quantifiable methane shall be subtracted from the Method 25A result.

- Visible emissions from the fiberbed scrubber system stack (Stack #1) shall not exceed 10% opacity on a six (6) minute block average basis, except for no more than one (1) six (6) minute block average in an one (1) hour period.
- FFT shall operate the thermobonding ovens only when the fiberbed scrubber is in operation, with the exception of up to 200 hours/year of operation without the fiberbed scrubber, for maintenance purposes. [BPT, A-678-71-K-A]
- FFT is limited to an operational limit of 70 million pounds of total thermobonders output per year, based on a 12-month rolling total, demonstrated by production records.

F. Struto Thermobonder

FFT has requested licensed emission limits for this electrically powered unit be based on its maximum production capacity of 1,200 pounds per hour, which would increase the maximum emissions for the Struto thermobonder to 0.045 lb/hr for PM and 0.03 lb/hr for VOC. When originally added to the facility, maximum emissions of 0.03 lb/hour for PM and 0.02 lb/hr for VOC were licensed, calculated on a production capacity of 800 pounds per hour. Both cases assume the unit is in operation 8760 hours per year.

Pound per hour emission rates are from the stack test conducted February 18, 2010.

Visible emissions from the Struto thermobonding oven shall not exceed 10% opacity of a six (6) minute block average basis, except for no more than one (1) six (6) minute block average in any one (1) hour period.

G. Pinette Thermoformers #2, #3, and #4

FFT has requested licensing of three additional, Pinette thermoformers – one to be installed in October 2012, with the remaining two to be installed in 2013. Conservatively, PM and VOC emissions from these three units will be 0.479 lb/ton of product and 0.353 lb/ton of product, respectively.

The three new thermoformers will exhaust through Stack Pinette #2, Stack Pinette #3 and Stack Pinette #4.

BACT Analysis

Thermal oxidation and fiberbed scrubber filtration technology were considered for emission control. Other technologies were not considered because of technical infeasibility of less efficient control than thermal oxidation or fiberbed scrubber technology.

Fiberbed scrubber filtration was selected as BACT for visible emissions and PM control. FFT installed a fiberbed scrubber in late 2001. At that time, similar units were being used at other facilities with similar emissions characteristics. The existing fiberbed scrubber does not have sufficient remaining capacity to handle the exhaust flow from the three thermoformers; therefore a new control device would be required to control emissions from the thermoformers.

Of the two selected control technologies, fiberbed scrubber filtration is the most cost effective control of visible and PM emissions. The most recent BACT analysis performed at FFT showed an annualized cost for a fiberbed scrubber of approximately \$90,000 (costs basis for the year 2000). Control efficiency for filterable PM would be 60%, for condensable PM – 50%, with no control of VOC. Conservatively assuming all PM emissions are condensable and can be controlled at 60%, the total PM removed by the scrubber would be 1.29 tons per year. Based on an annualized cost of \$90,000, and controlled emissions of 1.29 tons, the cost per ton of pollutant removed would be nearly \$70,000 per ton. It is therefore concluded that control of proposed thermoformer emissions is not cost effective.

No increase in facility fuel limit is requested to accommodate the new thermoforming line.

FFT proposes to limit the three thermoformers to processing a combined total of 9,000 tons of fabric per year.

Annual emissions for the facility, because of the addition of the three thermoformers, are expected to increase by 2.3 tons per year for PM and PM₁₀ and 1.7 tons per year for VOC.

H. Clam #3 Thermoformer Molding Line

FFT also operates Clam #3 Molding Line which is not currently listed on the air emission license. This unit is similar to the Clam #1 and Clam #2 molding lines, has production rate of 280 tons per year, is powered by electricity, and vents inside the building. This unit is included in this license for inventory completeness purposes only.

I. Kiefel #3, Clam #2, and AMS

Kiefel #3, Clam #2, and AMS are general process units with stacks.

Visible emissions from the Kiefel #3 stack, the Clam #2 stack, and the AMS stack EACH shall not exceed an opacity of 10% on a six (6) minute block average basis, except for two (2) six (6) minute block averages in a three (3) hour period.

J. Facility Fuel Limit

FFT shall be subject to a facility wide natural gas limit of 359 million standard cubic feet per year, based on a 12-month rolling total. Fuel use records shall be maintained on a monthly basis in addition to the 12-month rolling total.

K. Emergency Generators

FFT operates a diesel-fired emergency generator rated at 1.0 MMBtu/hour and two natural gas-fired emergency generators rated at 0.25 MMBtu/hour each. The generators were manufactured in 2004, 1987, and 1993, respectively; thus, these units are not subject to 40 CFR Part 60 New Source Performance Standards (NSPS) requirements but are subject to 40 CFR Part 63, Subpart ZZZZ NESHAPs requirements.

1. BPT Findings

The BPT emission limits for the diesel generator are based on the following:

- PM/PM₁₀ – 0.31 lb/MMBtu from AP-42 Table 3.3-1 (dated 10/96), 0.31 lb/hr
- SO₂ – based on firing 0.0015% sulfur, 0.01 lb/MMBtu; 0.01 lbs/hr
- NO_x – 4.41 lb/MMBtu, AP-42, Table 3.3-1 (dated 10/96); 4.41 lbs/hr
- CO – 0.95 lb/MMBtu, AP-42, Table 3.3-1 (dated 10/96); 0.95 lb/hr
- VOC – 0.35 lb/MMBtu, AP-42, Table 3.3-1 (dated 10/96); 0.35 lb/hr
- Opacity – Visible emissions from the diesel emergency generator shall not exceed 20% opacity on a six (6) minute block average, except for no more than two (2) six (6) minute block averages in a three (3) hour period.

Each emergency generator shall be limited to 500 hours of operation a year, based on a 12-month rolling total. FFT shall keep records of the hours of operation for each unit.

2. 40 CFR Part 63, Subpart ZZZZ

The federal regulation 40 CFR Part 63, Subpart ZZZZ, *National Emission Standards for Hazardous Air Pollutants (NESHAP) for Stationary Reciprocating Internal Combustion Engines* is applicable to the emergency generators listed above. The units are considered existing, emergency, stationary, reciprocating, internal combustion engines at an area HAP source and are not subject to New Source Performance Standards regulations. EPA's August 9, 2010 memo (*Guidance Regarding Definition of Residential, Commercial, and Institutional Emergency Stationary RICE in the NESHAP for Stationary RICE*) specifically does not exempt these units from the federal requirements.

Emergency Definition:

Emergency stationary reciprocating internal combustion engine (RICE) is defined in 40 CFR Part 63, Subpart ZZZZ as any stationary internal combustion engine whose operation is limited to emergency situations and required testing and maintenance. Examples include stationary RICE used to produce power for critical networks or equipment (including power supplied to portions of a facility) when electric power from the local utility (or the normal power source, if the facility runs on its own power production) is interrupted, or stationary RICE used to pump water in the case of fire or flood, etc. Stationary RICE used for peak shaving are not considered emergency stationary RICE. Stationary RICE used to supply power to an electric grid or that supply non-emergency power as part of a financial arrangement with another entity are not considered to be emergency engines, except as permitted under §63.6640(f).

§63.6640(f) limits maintenance checks and readiness testing of the units to 100 hours per year. Emergency stationary RICE may operate up to 50 hours per year in non-emergency situations, but those 50 hours are counted towards the 100 hours per year provided for maintenance and testing. The 50 hours per year for non-emergency situations cannot be used for peak shaving or to generate income for a facility to supply power to an electric grid or otherwise supply power as part of a financial arrangement with another entity; except that owners and operators may operate the emergency engine for a maximum of 15 hours per year as part of a demand response program if the regional transmission organization or equivalent balancing authority and transmission operator has determined there are emergency conditions that could lead to a potential electrical blackout, such as unusually low frequency, equipment overload, capacity or energy deficiency, or unacceptable voltage level. The engine may not be operated for more than 30 minutes prior to the time when the emergency condition is expected to occur, and the engine operation must be terminated immediately after the facility is notified that the emergency condition is no longer imminent. The 15 hours per year of demand response operation are counted as part of the 50 hours of operation per year provided for non-emergency situations. The supply of emergency power to another entity or entities pursuant to financial arrangement is not limited by this paragraph, as long as the power provided by the financial arrangement is limited to emergency power.

40 CFR Part 63, Subpart ZZZZ Requirements:

<u>Emergency Generators</u>	<u>Compliance Dates</u>	<u>Operating Limitations* (40 CFR §63.6603(a) and Table 2(d))</u>
Compression ignition (diesel, fuel oil) units	No later than May 3, 2013	<ul style="list-style-type: none"> - Change oil and filter every 500 hours of operation or annually, whichever comes first; - Inspect the air cleaner every 1000 hours of operation or annually, whichever comes first; - Inspect all hoses and belts every 500 hours of operation or annually, whichever comes first, and replace as necessary.
Spark ignition (natural gas, propane) units	No later than October 19, 2013	<ul style="list-style-type: none"> - Change oil and filter every 500 hours of operation or annually, whichever comes first; - Inspect spark plugs every 1000 hours of operation or annually, whichever comes first; - Inspect all hoses and belts every 500 hours of operation or annually, whichever comes first, and replace as necessary

* Note: Due to the 500 hour operation limit on the generator, the inspections and oil/filter changes shall be performed annually to meet the requirements of 40 CFR Part 63, Subpart ZZZZ.

The generators shall be operated and maintained according to the manufacturer's emission-related written instructions, or FFT shall develop a maintenance plan which provides to the extent practicable for the maintenance and operation of the engines in a manner consistent with good air pollution control practice for minimizing emissions. [40 CFR §63.6625(e)]

A non-resettable hour meter shall be installed and operated on each generator. [40 CFR §63.6625(f)]

Each emergency generator shall be limited to 100 hours per year for maintenance and testing. Up to 50 hours per year of the 100 hours per year may be used in non-emergency situations (this does not include peak shaving or generating income or a financial arrangement with another entity). A maximum of 15 hours per year (of the 50 hours/year) may be used as part of a demand response program. [40 CFR §63.6640(f)(1)]

FFT shall keep records that include maintenance conducted on the generators and the hours of operation of the engines recorded through the non-resettable hour meters. Documentation shall include the hours spent for emergency operation, including what classified the operation as emergency and how many hours spent for non-emergency. If the generators are used for demand response operation, FFT must keep records of the notification of the emergency situation, and the time the engines were operated as part of demand response. [40 CFR §63.6655(e) and (f)]

L. Parts Washer

FFT operates a 12 gallon parts washer in the maintenance shop, which uses petroleum naphtha as a solvent. The parts washer is subject to *Solvent Cleaners*, 06-096 CMR 130 (as amended), and records shall be kept documenting compliance.

M. Annual Emissions

1. Total Annual Emissions

FFT shall be restricted to the following annual emissions, based on a 12-month rolling total, a production limit of 70 million pounds per year for the thermobonders and fuel use not to exceed 359 million standard cubic feet per year of natural gas.

Total Licensed Annual Emissions for the Facility

Tons per year

(Used to calculate the annual license fee)

<u>Emission Units</u>	<u>PM</u>	<u>PM₁₀</u>	<u>SO₂</u>	<u>NO_x</u>	<u>CO</u>	<u>VOC</u>
Facility Emission Limits	20.2	20.2	0.2	20.8	16.5	36.8
Total TPY	20.2	20.2	0.2	20.8	16.5	36.8

2. Greenhouse Gases

Greenhouse gases are considered regulated pollutants as of January 2, 2011, through 'Tailoring' revisions made to EPA's *Approval and Promulgation of Implementation Plans*, 40 CFR Part 52, Subpart A, §52.21 Prevention of Significant Deterioration of Air Quality rule. Greenhouse gases, as defined in 06-096 CMR 100 (as amended), are the aggregate group of the following gases: carbon dioxide, nitrous oxide, methane, hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride. For licensing purposes, greenhouse gases (GHG) are calculated and reported as carbon dioxide equivalents (CO₂e).

Based on the facility's fuel use limit(s), the worst case emission factors from AP-42, IPCC (Intergovernmental Panel on Climate Change), and *Mandatory Greenhouse Gas Reporting*, 40 CFR Part 98, and the global warming potentials contained in 40 CFR Part 98, FFT is below the major source threshold of 100,000 tons of CO₂e per year. Therefore, no additional licensing requirements are needed to address GHG emissions at this time.

III. AMBIENT AIR QUALITY ANALYSIS

According to 06-096 CMR 115, the level of air quality analyses required for a renewal source shall be determined on a case-by case basis. Modeling is not required for a renewal if the total emissions of any pollutant released do not exceed the following and there are no extenuating circumstances:

<u>Pollutant</u>	<u>Tons/Year</u>
PM	25
PM ₁₀	25
SO ₂	50
NO _x	100
CO	250

Based on the total facility licensed emissions, FFT is below the emissions level required for modeling.

ORDER

Based on the above Findings and subject to conditions listed below, the Department concludes that the emissions from this source:

- will receive Best Practical Treatment,
- will not violate applicable emission standards, and
- will not violate applicable ambient air quality standards in conjunction with emissions from other sources.

The Department hereby grants Air Emission License A-678-71-M-R/A subject to the following conditions.

Severability. The invalidity or unenforceability of any provision, or part thereof, of this License shall not affect the remainder of the provision or any other provisions. This License shall be construed and enforced in all respects as if such invalid or unenforceable provision or part thereof had been omitted.

STANDARD CONDITIONS

- (1) Employees and authorized representatives of the Department shall be allowed access to the licensee's premises during business hours, or any time during which any emissions units are in operation, and at such other times as the Department deems necessary for the purpose of performing tests, collecting samples, conducting inspections, or examining and copying records relating to emissions (38 M.R.S.A. §347-C).
- (2) The licensee shall acquire a new or amended air emission license prior to commencing construction of a modification, unless specifically provided for in Chapter 115. [06-096 CMR 115]
- (3) Approval to construct shall become invalid if the source has not commenced construction within eighteen (18) months after receipt of such approval or if construction is discontinued for a period of eighteen (18) months or more. The Department may extend this time period upon a satisfactory showing that an extension is justified, but may condition such extension upon a review of either the control technology analysis or the ambient air quality standards analysis, or both. [06-096 CMR 115]
- (4) The licensee shall establish and maintain a continuing program of best management practices for suppression of fugitive particulate matter during any period of construction, reconstruction, or operation which may result in fugitive dust, and shall submit a description of the program to the Department upon request. [06-096 CMR 115]
- (5) The licensee shall pay the annual air emission license fee to the Department, calculated pursuant to Title 38 M.R.S.A. §353-A. [06-096 CMR 115]
- (6) The license does not convey any property rights of any sort, or any exclusive privilege. [06-096 CMR 115]
- (7) The licensee shall maintain and operate all emission units and air pollution systems required by the air emission license in a manner consistent with good air pollution control practice for minimizing emissions. [06-096 CMR 115]

- (8) The licensee shall maintain sufficient records to accurately document compliance with emission standards and license conditions and shall maintain such records for a minimum of six (6) years. The records shall be submitted to the Department upon written request. [06-096 CMR 115]
- (9) The licensee shall comply with all terms and conditions of the air emission license. The filing of an appeal by the licensee, the notification of planned changes or anticipated noncompliance by the licensee, or the filing of an application by the licensee for a renewal of a license or amendment shall not stay any condition of the license. [06-096 CMR 115]
- (10) The licensee may not use as a defense in an enforcement action that the disruption, cessation, or reduction of licensed operations would have been necessary in order to maintain compliance with the conditions of the air emission license. [06-096 CMR 115]
- (11) In accordance with the Department's air emission compliance test protocol and 40 CFR Part 60 or other method approved or required by the Department, the licensee shall:
 - A. perform stack testing to demonstrate compliance with the applicable emission standards under circumstances representative of the facility's normal process and operating conditions:
 1. within sixty (60) calendar days of receipt of a notification to test from the Department or EPA, if visible emissions, equipment operating parameters, staff inspection, air monitoring or other cause indicate to the Department that equipment may be operating out of compliance with emission standards or license conditions; or
 2. pursuant to any other requirement of this license to perform stack testing.
 - B. install or make provisions to install test ports that meet the criteria of 40 CFR Part 60, Appendix A, and test platforms, if necessary, and other accommodations necessary to allow emission testing; and
 - C. submit a written report to the Department within thirty (30) days from date of test completion.
[06-096 CMR 115]
- (12) If the results of a stack test performed under circumstances representative of the facility's normal process and operating conditions indicate emissions in excess of the applicable standards, then:
 - A. within thirty (30) days following receipt of such test results, the licensee shall re-test the non-complying emission source under circumstances representative of the facility's normal process and operating conditions and in accordance with the Department's air emission compliance test protocol and 40 CFR Part 60 or other method approved or required by the Department; and

- B. the days of violation shall be presumed to include the date of stack test and each and every day of operation thereafter until compliance is demonstrated under normal and representative process and operating conditions, except to the extent that the facility can prove to the satisfaction of the Department that there were intervening days during which no violation occurred or that the violation was not continuing in nature; and
- C. the licensee may, upon the approval of the Department following the successful demonstration of compliance at alternative load conditions, operate under such alternative load conditions on an interim basis prior to a demonstration of compliance under normal and representative process and operating conditions. [06-096 CMR 115]
- (13) Notwithstanding any other provisions in the State Implementation Plan approved by the EPA or Section 114(a) of the CAA, any credible evidence may be used for the purpose of establishing whether a person has violated or is in violation of any statute, regulation, or Part 70 license requirement. [06-096 CMR 115]
- (14) The licensee shall maintain records of malfunctions, failures, downtime, and any other similar change in operation of air pollution control systems or the emissions unit itself that would affect emission and that is not consistent with the terms and conditions of the air emission license. The licensee shall notify the Department within two (2) days or the next state working day, whichever is later, of such occasions where such changes result in an increase of emissions. The licensee shall report all excess emissions in the units of the applicable emission limitation. [06-096 CMR 115]
- (15) Upon written request from the Department, the licensee shall establish and maintain such records, make such reports, install, use and maintain such monitoring equipment, sample such emissions (in accordance with such methods, at such locations, at such intervals, and in such a manner as the Department shall prescribe), and provide other information as the Department may reasonably require to determine the licensee's compliance status. [06-096 CMR 115]

SPECIFIC CONDITIONS

(16) **Molding Line K2 and K4**

- A. Emissions from each of the Molding Lines K2 and K4 firing natural gas shall not exceed the following:

PM	0.007 lb/hr
PM ₁₀	0.007 lb/hr
SO ₂	0.002 lb/hr
NO _x	0.392 lb/hr
CO	0.329 lb/hr
VOC	0.022 lb/hr

- B. Visible emissions for each stack (Kiefel #2 and Kiefel #4) shall be limited to 10% on a six (6) minute block average basis, except for no more than one (1) six (6) minute block average in a one (1) hour period.

(17) Thermobonders TTI, KTI, Aztec 2, Aztec 3 and Aztec 4

- A. Emissions from Thermobonders TTI, KTI, Aztec 2, Aztec 3, and Aztec 4, firing natural gas and exhausting through Stack #1, shall be limited to the following:

PM	8.08 lb/hr
PM ₁₀	8.08 lb/hr
SO ₂	0.01 lb/hr
NO _x	1.65 lb/hr
CO	1.38 lb/hr
VOC	11.4 lb/hr

- B. Compliance shall be based on stack testing. PM and VOC testing shall be performed once every five (5) years, starting with the five-year period beginning with the date of issuance of this license.
- C. PM testing shall be performed in accordance with EPA Methods 5 and 202.
- D. VOC testing shall be performed in accordance with EPA Method 25A modified by using chilled impingers like those used in Method 202 or other method approved by the Department to remove condensable PM. Methane shall be quantified using EPA Method 18 or other method approved by the Department. The quantifiable methane shall be subtracted from the Method 25A result.
- E. Visible emissions from the fiberbed scrubber system stack (Stack #1) shall not exceed 10% opacity on a six (6) minute block average basis, except for no more than one (1) six (6) minute block average in an one (1) hour period.
- F. FFT shall operate the thermobonding ovens only when the fiberbed scrubber is in operation, with the exception of up to 200 hours/year of operation without the fiberbed scrubber, for maintenance purposes. [BPT, A-678-71-K-A] Records of hours of operation of the thermobonding ovens and hours of operation of the fiberbed scrubber shall be maintained to document compliance with this limit.

- G. FFT is limited to an operational limit of 70 million pounds of thermobonder output per year, based on a 12-month rolling total, demonstrated by production records.

(18) Struto Thermobonder

- A. The maximum emissions for the Struto thermobonder shall not exceed 0.045 lb/hr for PM and 0.03 lb/hr for VOC, based on operating at a production capacity of 1,200 lb/hr. [BACT, A-678-71-L-A]
- B. Records shall be maintained documenting compliance with the licensed operating capacity of 1,200 pounds of material processed per hour.
- C. Visible emissions from the Struto thermobonding oven shall not exceed 10% opacity of a six (6) minute block average basis, except for no more than one (1) six (6) minute block average in any one (1) hour period.

(19) Pinette Thermoformers #2, #3, and #4

- A. Three, additional, Pinette thermoformers - one to be installed in October 2012, with the remaining two to be installed in 2013 - shall be added to FFT's license. PM and VOC emissions from each these three units shall not exceed 0.479 lb/ton of product and 0.353 lb/ton of product, respectively. [BACT, A-678-71-M-R/A] Compliance with these limits shall be based on production records of no greater than 9,000 tons of fabric per year processed by Pinette Thermoformers #2, #3, and #4 combined.
- B. Visible emissions from each of Pinette Thermoformers #2, #3, and #4 shall not exceed 10% opacity of a six (6) minute block average basis, except for no more than one (1) six (6) minute block average in any one (1) hour period.
- C. FFT shall limit these three thermoformers to processing 9,000 tons of fabric per year.

(20) Kiefel #3, Clam #2 and AMS

Visible emissions from the Kiefel #3 stack, the Clam #2 stack, and the AMS stack EACH shall not exceed 10% opacity on a six (6) minute block average basis, except for two (2) six (6) minute block averages in a three (3) hour period.

(21) Facility Fuel Limit

FFT shall be subject to a facility wide natural gas limit of 359 million standard cubic feet per year, based on a 12-month rolling total. Fuel use records shall be maintained on a monthly basis in addition to the 12-month rolling total.

(22) Emergency Generators

- A. Each generator is limited to 500 hours per year total operation, based on a 12-month rolling total. Compliance shall be demonstrated by a written log of all generator operating hours. [06-096 CMR 115]
- B. The fuel oil sulfur content for the diesel-fired emergency generator shall be limited to 0.0015% sulfur by weight. Compliance shall be demonstrated by fuel records from the supplier documenting the type of fuel delivered and the sulfur content of the fuel. [06-096 CMR 115, BPT]
- C. Emissions from the diesel-fired shall not exceed the following [06-096 CMR 115, BPT]:

<u>Emission Unit</u>	<u>PM</u> (lb/hr)	<u>PM₁₀</u> (lb/hr)	<u>SO₂</u> (lb/hr)	<u>NO_x</u> (lb/hr)	<u>CO</u> (lb/hr)	<u>VOC</u> (lb/hr)
Emergency Diesel Generator	0.31	0.31	0.01	4.41	0.95	0.35

- D. Visible emissions from the diesel generator shall not exceed 20% opacity on a 6-minute block average, except for no more than two (2) six (6) minute block averages in a 3-hour period. [06-096 CMR 101]
- E. The Emergency Generators shall meet the applicable requirements of 40 CFR Part 63, Subpart ZZZZ, including the following [40 CFR §63.6603(a) and Table 2(d); and 06-096 CMR 115]:
 - 1. No later than May 3, 2013, FFT shall meet the following operational limitations for the compression ignition emergency generator:
 - a. Change the oil and filter annually,
 - b. Inspect the air cleaner annually, and
 - c. Inspect the hoses and belts annually and replace as necessary.A log shall be maintained documenting compliance with the operational limitations.

2. No later than October 19, 2013, FFT shall meet the following operational limitations for the spark ignition emergency generators:
 - a. Change the oil and filter annually,
 - b. Inspect spark plugs annually, and
 - c. Inspect the hoses and belts annually and replace as necessary.

A log shall be maintained documenting compliance with the operational limitations.

3. A non-resettable hour meter shall be installed and operated on each generator. [40 CFR §63.6625(f)]
4. Maintenance, Testing, and Non-Emergency Operating Situations
 - a. Each generator shall be limited to 100 hours per year for maintenance and testing. Up to 50 hours per year of the 100 hours per year may be used in non-emergency situations (this does not include peak shaving or generating income or a financial arrangement with another entity). A maximum of 15 hours per year (of the 50 hours per year) may be used as part of a demand response program. These limits are based on a 12-month rolling total. Compliance shall be demonstrated by a written log of all generator operating hours. [40 CFR §63.6640(f)(1) and 06-096 CMR 115]
 - b. FFT shall keep records that include maintenance conducted on the generators and the hours of operation of the engines recorded through the non-resettable hour meters. Documentation shall include the hours spent for emergency operation, including what classified the operation as emergency, and how many hours spent for non-emergency. If the generator is used for demand response operation, FFT must keep records of the notification of the emergency situation, and the time the engine was operated as part of demand response. [40 CFR §63.6655(e) and (f)]
5. The generators shall be operated and maintained according to the manufacturer's emission-related written instructions, or FFT shall develop a maintenance plan which provides to the extent practicable for the maintenance and operation of the engine in a manner consistent with good air pollution control practice for minimizing emissions. [40 CFR §63.6625(e)]

(23) Parts Washer

The Parts washer at FFT is subject to *Solvent Cleaners*, 06-096 CMR 130 (as amended).

- A. FFT shall keep records of the amount of solvent added to the parts washer. [06-096 CMR 115, BPT]
- B. The following are exempt from the requirements of 06-096 CMR 130 [06-096 CMR 130]:
 1. Solvent cleaners using less than two liters (68 oz) of cleaning solvent with a vapor pressure of 1.00 mmHg, or less, at 20° C (68° F);
 2. Wipe cleaning; and,
 3. Cold cleaning machines using solvents containing less than or equal to 5% VOC by weight.
- C. The following standards apply to cold cleaning machines that are applicable sources under Chapter 130.
 1. FFT shall attach a permanent conspicuous label to each unit summarizing the following operational standards [06-096 CMR 130]:
 - a. Waste solvent shall be collected and stored in closed containers.
 - b. Cleaned parts shall be drained of solvent directly back to the cold cleaning machine by tipping or rotating the part for at least 15 seconds or until dripping ceases, whichever is longer.
 - c. Flushing of parts shall be performed with a solid solvent spray that is a solid fluid stream (not a fine, atomized or shower type spray) at a pressure that does not exceed 10 psig. Flushing shall be performed only within the freeboard area of the cold cleaning machine.
 - d. The cold cleaning machine shall not be exposed to drafts greater than 40 meters per minute when the cover is open.
 - e. Sponges, fabric, wood, leather, paper products and other absorbent materials shall not be cleaned in the degreaser.
 - f. When a pump-agitated solvent bath is used, the agitator shall be operated to produce no observable splashing of the solvent against the tank walls or the parts being cleaned. Air agitated solvent baths may not be used.
 - g. Spills during solvent transfer shall be cleaned immediately. Sorbent material used to clean spills shall then be immediately stored in covered containers.
 - h. Work area fans shall not blow across the opening of the degreaser unit.
 - i. The solvent level shall not exceed the fill line.
 2. The remote reservoir cold cleaning machine shall be equipped with a perforated drain with a diameter of not more than six inches. [06-096 CMR 130]

Formed Fiber Technologies, LLC
Androscoggin County
Auburn, Maine
A-678-71-M-R/A (SM)

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Departmental
Findings of Fact and Order
Air Emission License
Renewal / Amendment

- (24) FFT shall notify the Department within 48 hours and submit a report to the Department on a quarterly basis if a malfunction or breakdown in any component causes a violation of any emission standard (38 M.R.S.A. §605).

DONE AND DATED IN AUGUSTA, MAINE THIS 14 DAY OF December, 2012.

DEPARTMENT OF ENVIRONMENTAL PROTECTION

BY: Marc Allen Robert Core for
PATRICIA W. AHO, COMMISSIONER

The term of this license shall be ten (10) years from the signature date above.

[Note: If a complete renewal application, as determined by the Department, is submitted prior to expiration of this license, then pursuant to Title 5 MRSA §10002, all terms and conditions of the license shall remain in effect until the Department takes final action on the renewal of the license.]

PLEASE NOTE ATTACHED SHEET FOR GUIDANCE ON APPEAL PROCEDURES

Date of initial receipt of application: 07/18/2011

Date of application acceptance: 07/19/2012

Date filed with the Board of Environmental Protection:

This Order prepared by N. Lynn Cornfield, Bureau of Air Quality.

