Commonwealth of Virginia
Department of Environmental Quality
Northern Virginia Regional Office
Fredericksburg Satellite Office

STATEMENT OF LEGAL AND FACTUAL BASIS

Facility Information

Permittee Name: Therma-Tru Corporation
3000 Mine Road
Fredericksburg, Virginia 22408

Facility Name: Therma-Tru Virginia, LLC
3000 Mine Road
Fredericksburg, Virginia 22408

Registration No.: 40331
Permit No.: FSO40331
AIRS ID No.: 51-177-0039

Authority

Title V of the 1990 Clean Air Act Amendments require each state to develop a permit program to ensure that certain facilities have federal Air Pollution Operating Permits, called Title V Operating Permits. As required by 40 CFR Part 70 and 9 VAC 5 Chapter 80, Therma-Tru Virginia, LLC (Therma-Tru) has applied for a Title V Operating Permit for its entrance door and sheet metal manufacturing products facility in Spotsylvania County, near Fredericksburg, Virginia. The Department reviewed the application and prepared a draft Title V Operating Permit.

Facility Description

Therma-Tru Virginia, LLC produces miscellaneous metal parts which are fabricated and assembled into metal entrance doors, insulated doors and chimney products. The facility contains door and chimney products manufacturing lines, one Ransburg automated paint spray booth line, drying/curing units, silk screening, and touch-up spray booths.

Foam-Insulated Entrance Doors
SIC Code 3442, Metal Door, Sash, Frames, Molding, and Trim.

Metal door skins are fabricated from a steel coil. The door skin is either rapped around expanded-polystyrene (EPS) foam panels or filled with urethane foam to create insulated doors. EPS foam panels are cut with a hot wire. Adhesive holds the panels inside the door skin while the door skin seams are welded closed.

Urethane doors are manufactured as follows. The door skins are welded closed and placed in door presses. The door skin cavity is filled with a foam mixture of polyisocyanate (A-foam), urethane polyol (B-foam) and HCFC-22 blowing agent. The foam is cured in the door press.

Manufactured Doors and Subassemblies
SIC Code 3089, Plastic Products, Not Elsewhere Classified.
SIC Code 3442, Metal Doors, Sash, Frames, Molding and Trim

Manufactured doors and miscellaneous subassemblies are surface coated in spray booths. The Ransburg automated coating system applies coating on manufactured entrance doors, metal parts, wood parts, and polymetric substrates. Manual spray paint booths are used to paint manufactured doors and door samples, and are used to touchup repair of doors. The spray application area is vented through dry filters to collect overspray.

Metal Chimney Flue and Other Miscellaneous Metal Parts
SIC Code 3443, Fabricated Plate Work

Located in the G-building, the metal chimney flue products are fabricated on-site from sheet metal. A manual spray paint application booth is used to paint the product. The spray booth overspray is collected by a dry filter. Some products are silk screened to overlay a design pattern on the product. An infra-red oven is used to cure the coatings.

Excluding insignificant emission units, the following equipment is located at this facility:

Emission Unit ID	Emission Unit Description	Size/Rated Capacity*	Pollution Control Device (PCD) Description	PCD ID
Finishing Operation- Entrance Doors				
01, 02	Two manual spray paint guns and two ventilated spray paint booths for repair and touchup of entrance door product. (estimated installation date 1984)	1.5 pounds solvent each	Paint Arrestor 3000 filter or equivalent	01, 02
03	Ransburg System Paint Drying Oven - LPG Fired Paint Drying Oven (Blue Surf 1730-B)	1.9 mmBtu/hr	-	-
04, 05	Two drying areas (solvent flash off area) with two local exhaust ventilation systems for Ransburg Paint Line (estimated installation date 1976)	-	-	-
06	Manual spray paint gun and ventilated booth for precoating of entrance doors (estimated installation date 1976)	390 pounds solvent	Paint Arrestor 3000 filter or equivalent	06
07, 08	Ransburg automated spray paint application system with two vented coating application booths (estimated installation date 1976)	308 pounds solvent	Paint Arrestor 3000 filter or equivalent	07, 08
09	Ransburg Paint Mix Room - Paint solvent storage and mixing	-	-	-
191	Automated spray booth for application of powder coatings on metal parts (estimated installation date 1995)	360 pounds	Koch high efficiency filter or equivalent	191
Finishing Operation - G Building Fabricated Metal, Chimney Products, and Miscellaneous Sheet Metal Parts				
16	Manual spray paint gun and ventilated booth for metal fabricated venting (flue) products (estimated installation date 1978)	13 pounds solvent	Paint Arrestor 3000 filter or equivalent	16
17	Silk screen paint applicator and infra-red drying oven for coating	2.6 pounds solvent	-	-

	metal fabricated venting products (estimated installation date 1978)			
187	Chimney Products Paint Mix Room - Paint & Solvent Storage and Mixing	-	-	-
Entrance Door Assembly				
185	Steel Door Frame Manufacturing - metal cutting, shaping, spot welding, and gluing of metal door framing assemblies.	50 doors/hr	-	-
199	Door Window Glazing X-Y Applicator	3.8 gals/hr	-	-

*The Size/Rated capacity is provided for informational purposes only, and is not an applicable requirement.

Emissions Summary

PLANT WIDE EMISSIONS SUMMARY (TONS PER YEAR)	
Criteria Pollutant	2002 Emissions
Volatile Organic Compounds (VOC)	18.8
Nitrogen Oxides (as NO_2)	1.2
Sulfur Dioxide (SO_2)	1.7

Appendix A contains a copy of the 2002 Annual Emissions Statement and Certification Form for Therma-Tru.

Title V Program Applicability Basis

The facility has the potential to emit 248.0 tons/year of volatile organic compounds (VOC). Due to this facility's potential to emit over 100 tons/year of a criteria pollutant, Therma-Tru is required to have an operating permit pursuant to Title V of the federal Clean Air Act, as amended, and 9 VAC 5 Chapter 80 Article 1.

Legal and Factual Basis For Draft Permit Conditions

The State and Federally-enforceable conditions of the Title V Operating Permit are based upon the requirements of the Commonwealth of Virginia, Federal Operating Permit Regulation for the purposes of Title V of the Federal Clean Air Act (9 VAC 5 Chapter 80 Article 1), and underlying applicable requirements in other state and federal rules. Applicable requirement means all of the following as they apply to emission units in a Title V source:

a. Any standard or other requirement provided for in the State Implementation Plan or the Federal Implementation Plan, including any source-specific provisions such as consent agreements or orders.

b. Any term or condition of any preconstruction permit issued pursuant to 9 VAC 5-80-10, 9 VAC 5 Chapter 80 Article 6 (9 VAC 5-80-1100 et seq.), 9 VAC 5 Chapter 80 Article 8 (9 VAC 5-80-1700 et seq.), or 9 VAC 5 Chapter 80 Article 9 (9 VAC 5-80-2000 et seq.) or of any operating permit issued pursuant to 9 VAC 5 Chapter 80 Article 5, except for terms or conditions derived from applicable state requirements or from any requirement of the Virginia State Air Pollution Control Board's Regulations (Regulations) not included in the definition of applicable requirement.

c. Any standard or other requirement prescribed under these regulations, particularly the provisions of 9 VAC 5 Chapter 40 (9 VAC 5-40-10 et seq.), 9 VAC 5 Chapter 50 (9 VAC 5-50-10 et seq.) or 9 VAC 5 Chapter 60 Articles 1 through 3 (9 VAC 5-60-10 et seq.), adopted pursuant to requirements of the federal Clean Air Act or under §111, 112, or 129 of the federal Clean Air Act.

d. Any requirement concerning accident prevention under 112(r)(7) of the federal Clean Air Act.

e. Any compliance monitoring requirement established pursuant to either §504(b) or §114(a)(3) of the federal Clean Air Act or these regulations.

f. Any standard or other requirement for consumer and commercial products under §183(e) of the federal Clean Air Act.

g. Any standard or other requirement for tank vessels under §183(f) of the federal Clean Air Act.

h. Any standard or other requirement in 40 CFR Part 55 to control air pollution from outer continental shelf sources.

i. Any standard or other requirement of the regulations promulgated to protect stratospheric ozone under Title VI of the federal Clean Air Act, unless the administrator had determined that such requirements need not be contained in a permit issued under this article.

j. With regard to temporary sources subject to 9 VAC 5-80-130, (i) any ambient air quality standard, except applicable state requirements, and (ii) requirements regarding increments or visibility as provided in Article 8 (9 VAC 5-80-1700 et

seq.) of this part.

k. Any standard or other requirement of the acid deposition control program under Title IV of the Clean Air Act or the regulations promulgated thereunder.

l. Any standard or other requirement governing solid waste incineration under §129 of the Clean Air Act.

Appendix B of this Statement of Basis document contains a copy of the October 2, 2003, new source review permit which provide a basis for the draft Title V permit.

Emission Unit and Permit Condition Discussion

The Title V permit is based on existing source rules and conditions contained in a October 2, 2003, new source review permit. State only enforceable conditions are excluded from the Title V permit at the permittee's request.

Each State and Federally-enforceable condition of the draft Title V Operating Permit references the specific relevant requirements of 9 VAC 5 Chapter 80 Article 1 or the applicable requirement upon which it is based.

Emission Unit 24 - Powr-Matic TE-41 Space Heating Furnace

In accordance with 9 VAC 5-80-720.B, emission unit 24 is an insignificant emission unit since pollutant specific emissions are less than 5 tons/year. The furnace is rated at 1.8 mmBtu per hour and burns No. 2 fuel oil. By definition, No. 2 fuel oil contains 0.5% or less sulfur by weight.

The application states emission unit 24 was constructed before 1979. A file search demonstrates the unit was not registered on a registration update dated June 20, 1977, revised 11/3/77; however, the emission unit is registered on a August 3, 1993, update. Emission unit 24 would be an exempt source if constructed between 1977 and 1993, therefore existing source rules are not applicable to the unit.

SO_2 and particulate emissions from the furnace are calculated using AP-42 factors. Furnace emissions are estimated to be as follows:

SO_2 12.857 gal/hr x 71 lb/10^3 gal=0.912 lb SO_2/hr; or	4.0 tons SO_2 PTE
PM_{10} 12.857 x 2/10^3 = 0.025 pph PM_{10}; or	0.11 tpy PM_{10} PTE
NOx 12.857 x 20/10^3 = 0.25 pph NOx; or	1.1 tpy NOx PTE
CO 12.857 x 5/10^3 = 0.06 pph CO; or	0.28 tpy CO PTE
VOC 12.857 x 0.34/10^3 = 0.00437 pph PM_{10}; or	0.019 tpy PM_{10} PTE

In accordance with 9 VAC 5-40-50.F and 9 VAC 5-50-50.F the owner of a stationary source shall keep records as necessary to determine its emissions. Recommended recordkeeping includes monthly fuel consumption and fuel supplier certifications indicating the oil delivered complies with the American Society for Testing and Materials Specifications (ASTM D396-78) for fuel oil numbers 1 and 2, and the fuel sulfur content.

Emission Units 20A, 21A, 22, and 23A - Gumser Door Filling Presses

Gumser door filling and pressing stations (emission units 20A, 21A, 22, and 23A) are insignificant emission units for criteria pollutants and hazardous air pollutants (HAP). Permit application calculations indicate emissions of the HAP pollutant 4,4' diphenylmethane diisocyanate (MDI) in 1996 were 0.0002 tons per year or 0.32 pounds per hour. Based on the following information, emission units 20A, 21A, 22, and 23A are classified as insignificant emission units: 1) the quantity of actual emissions are very small and 2) by permit condition, the permittee is required to maintain records that demonstrate the uncontrolled emissions of each emission unit (emission units 20A, 21A, 22, and 23A) at 8760 hours of operation are less than the insignificant activity threshold limits in 9 VAC 5-80-720 B.

Testing

When testing of an emission unit is required, the permittee shall coordinate the compliance test with the Air Compliance Manager (ACM), Northern Virginia Regional Office (NVRO). The permittee shall submit a stack test protocol for approval by the ACM, NVRO at least thirty days prior to the date of the compliance test.

If testing is conducted in addition to the monitoring specified in the permit, the permittee may use the following methods in accordance with procedures approved in advance by the DEQ:

Pollutant	Test Method (40 CFR Part 60, Appendix A)
VOC	EPA Methods 18, 25, 25a
VOC Content	EPA Methods 24
Visible Emission	EPA Method 9, 22

Periodic Monitoring and Compliance

Periodic monitoring for particulate emissions generated by the Ransburg coating line, G-building fabricated metal and chimney products coating operations consists of:

Daily inspections of spray booth filters for fit and particulate loading;

Weekly visible emissions observations of spray booth exhaust stacks;

Monthly records of throughput of applied coating materials.

Periodic monitoring of VOC emissions consists of recordkeeping of applied coating materials, diluent, and adhesive used in door assembly. Monitoring of VOC emissions and compliance with VOC emission limits shall be demonstrated by using DEQ approved methods such as material balance calculations, pollutant-specific emission factors and/or recordkeeping. The monitoring shall be conducted on a calendar month basis. Annual VOC emissions shall be calculated on a monthly basis by summing VOC emissions for each consecutive twelve month period.

The monitoring or compliance method and changes to the monitoring or compliance method shall be submitted to the DEQ, Northern Virginia Regional Office for approval by the Air Compliance Manager. The initial compliance and periodic monitoring method shall be submitted to the DEQ for approval within thirty days of issuance of the permit. Changes to the compliance and periodic monitoring method shall be submitted to the DEQ for approval at least thirty days prior to the effective date requested by the permittee.

Streamlined Condition

The following conditions in the new source review permit dated October 2, 2003, have been streamlined from the draft permit:

Condition 2 of the new source review permit is streamlined from the Title V permit. Condition 2 states that reactivation of the expanded polystyrene foam panel embossing process (emission unit 168), PVC extrusion lines (emission unit numbers 160, 161, and 162), or Nordson coating application system (emission units 10 through 15, and 159) may require a permit. Therma-Tru has certified by letters dated September 2, 2003, and September 15, 2003, that the equipment listed in Condition 2 of the new source review permit will be completely removed from the Therma-Tru Virginia, LLC facility. The Title V permit does not grant permission to operate emission units 10 through 15, 159 through 162, and 168.

Future Applicable Requirements

The following EPA National Emission Standards for Hazardous Air Pollutants may be applicable to Therma-Tru:

40 CFR 63 Subpart RRRR, National Emission Standards for **Metal Furniture (Surface Coating)**, Signed 05/23/03;

40 CFR 63 Subpart MMMM, National Emission Standards for **Misc. Metal Parts and Products** (Surface Coating), Signed 8/20/03.

If applicable, compliance with the 40 CFR 63 Subparts must be achieved within three years of their promulgation dates.

Comment Period

The public notice for a thirty day comment period is scheduled to appeared in *The Freelance Star* newspaper on October 8, 2003.

Public Comment Period Beginning Date: October 8, 2003
Public Comment Period Ending Date: November 7, 2003

All written comments should be addressed to:

Department of Environmental Quality
Fredericksburg Satellite Office
806 Westwood Office Park
Fredericksburg, Virginia 22401

Phone: (540) 899-4508 Facsimile: (540) 899-4647

Procedure For Requesting A Public Hearing

During the public comment period any interested person may submit written comments on the draft permit and may request a public hearing. A request for a public hearing shall be in writing to the above address and shall state the nature of the issues proposed to be raised in the hearing. The DEQ Director or Northern Virginia Regional Director shall grant such a request for a hearing if he concludes that a public hearing is appropriate. Any public hearing shall be held in the general area in which the facility is located.

Appendix A

2002 Certification Form and Annual Emissions Statement for

Therma-Tru Virginia, LLC

THERMA TRU®
VIRGINIA

RECEIVED
MAR 21 2003
FSO

March 18, 2003

Commonwealth of Virginia
Department of Environmental Quality
Fredericksburg Office
806 Westwood Office Park
Fredericksburg, Virginia 22401

RE: 2002 Annual Emission Statement

Dear Mr. Lafratta:

Enclosed you will find our annual update report for 2002 for our facility located at 3000 Mine Road, Fredericksburg, VA 22406. Along with the emission statement and the certification, there are copies of the calculation spreadsheets used to prepare our submission. Please take note of the changes for the contact person. If you have any questions, please contact myself or Pamela A. Reese, Corporate Manger EH&S at 800 346-9141 x 2114.

Sincerely,

Greg Menke
General Manager

Enc:

Event	Date	Initials
Code: GCS	5/19/03	TAS
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QC		

3000 Mine Road Fredericksburg, VA 22408
Phone: 800-755-3667 Fax: (540) 898-5802

DEQ

VIRGINIA DEPARTMENT OF
ENVIRONMENTAL QUALITY

RECEIVED
MAR 21 2003
FSO

EMISSION STATEMENT CERTIFICATION

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering and evaluating the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

(see reverse side for instructions)

SIGNATURE: Gregory A. Menke **DATE:** MAR 19, 2003

PRINTED NAME: GREGORY A. MENKE

TITLE: GENERAL MANAGER

COMPANY: THERMA TRU VIRGINIA dba GENERAL PRODUCTS COMPANY

REGISTRATION NUMBER: 40331

TELEPHONE NUMBER: 540-898-5700

Event	Date	Initials
Code: CES	5/19/03	TAS
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DEQ

VIRGINIA DEPARTMENT OF
ENVIRONMENTAL QUALITY

RECEIVED
MAR 21 2003
FSO

2002 EMISSION STATEMENT

Please correct any errors in the information below (cross out & replace)

FACILITY NAME	REGISTRATION #	CONTACT PERSON
GENERAL PRODUCTS COMPANY INC	40331	GREG ~~MCCRACKEN~~ MENKE
LOCATION 3000 Mine Rd Fredericksburg, VA 22406-		**JURISDICTION** Spotsylvania County
MAILING ADDRESS 3000 Mine Road	**MAILING CITY AND STATE** Fredericksburg, VA	**ZIPCODE** 22408-
PARENT COMPANY (IF APPLICABLE) THERMA TRU CORPORATION ~~General Products Company Incorporated~~	**TELEPHONE NUMBER** 5408985~~607~~ 5700	**PRIMARY SIC CODE** 3442

For Agency Use Only
T5

FACILITY TOTALS *(Sum emissions from attached pages)*

	ANNUAL	OZONE SEASON
TOTAL VOC EMISSIONS FOR 2002	18.8 TONS/YR	LBS/DAY
TOTAL NO_X EMISSIONS FOR 2002	1.2 TONS/YR	LBS/DAY
TOTAL SO_2 EMISSIONS FOR 2002	1.7 TONS/YR	NA
TOTAL PM_{10} EMISSIONS FOR 2002	0 TONS/YR	NA
TOTAL PB EMISSIONS FOR 2002	— TONS/YR	NA
TOTAL TRS EMISSIONS FOR 2002	— TONS/YR	NA
TOTAL TNMOC EMISSIONS FOR 2002 (landfills only)	— TONS/YR	NA
TOTAL non-VOC/non-PM HAP EMISSIONS FOR 2002	— TONS/YR	NA
TOTAL CO EMISSIONS FOR 2002	TONS/YR	NA
TOTAL $PM_{2.5}$ EMISSIONS FOR 2002	TONS/YR	NA
TOTAL NH3 EMISSIONS FOR 2002	TONS/YR	NA

PLEASE ATTACH "ANNUAL UPDATE" FORM.
PLEASE ATTACH "EMISSION STATEMENT CERTIFICATION" with appropriate signature.

Event	Date	Initials
Code: CES	5/19/03	TAS
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QC		

HEATING OIL

2002 EMISSION CALCULATIONS
(ON I: EMISSION FACTOR ME)

Event	Date	Initials
Code:		
Scanned		
QC		

REGISTRATION #: 51-177-0039 POINT NO. 001 SEGMENT NO. 01 SCC NO. 10300501

	ANNUAL	OZONE SEASON = JUNE, JULY, AUGUST
THRUPUT (with units)	75,797.4 gal	
NO. OPERATING DAYS	days	days
NO. OPERATING HOURS PER DAY	hours	hours
DAILY THRUPUT (with units) = Thruput ÷ days	NA	per day
VOC EMISSION FACTOR (with units) = EF	0.34 #/1000 gal	
Emission Factor source[1] / Control Efficiency basis[2]	AP-42	
VOC CONTROL DEVICE CODE[3]		
Avg. VOC CONTROL EFFICIENCY[4] = CE	%	%
VOC EMISSIONS[5]	0.013 tons VOC per yr	lbs VOC per day
NOx EMISSION FACTOR (with units) = EF	20 #/1000 gal	
Emission Factor source[1] / Control Efficiency basis[2]	AP-42	
NOx CONTROL DEVICE CODE[3]		
Avg. NOx CONTROL EFFICIENCY[4] = CE	%	%
NOx EMISSIONS[5]	0.76 tons NOx per yr	lbs NOx per day
SO2 EMISSION FACTOR (with units) = EF	143.6 #/1000 gal x 0.3	
Emission Factor source[1] / Control Efficiency basis[2]	AP-42	
FUEL PARAMETER (% ash or % sulfur) = FP	%	%
SO2 CONTROL DEVICE CODE[3]		
Avg. SO2 CONTROL EFFICIENCY[4] = CE	%	%
SO2 EMISSIONS[5]	1.63 tons SO2 per yr	lbs SO2 per day
PM10 EMISSION FACTOR (with units) = EF	1.08 #/1000 gal	
Emission Factor source[1] / Control Efficiency basis[2]	AP-42	
FUEL PARAMETER (% ash or % sulfur) = FP	%	%
PM10 CONTROL DEVICE CODE[3]		
Avg. PM10 CONTROL EFFICIENCY[4] = CE	%	%
PM10 EMISSIONS[5]	0.041 tons PM10 per yr	lbs PM10 per day
PB EMISSION FACTOR (with units) = EF		
Emission Factor source[1] / Control Efficiency basis[2]		
PB CONTROL DEVICE CODE[3]		
Avg. PB CONTROL EFFICIENCY[4] = CE	%	%
PB EMISSIONS[5]	tons PB per yr	lbs PB per day
TRS Emission Factor (with units) = EF		
Emission Factor source[1] / Control Efficiency basis[2]		
TRS CONTROL DEVICE CODE[3]		
Avg. TRS CONTROL EFFICIENCY[4] = CE	%	%
TRS EMISSIONS[5]	tons TRS per yr	lbs TRS per day

1. **AP-42**; **CEMS**; **ST** = Stack test; **F** = Federal factor (EPA standard factor); **O** = Other (describe on separate sheet; use subject to DEQ approval)
2. **A** = Tested (by EPA Reference Method); **B** = Tested (other); **C** = Material balance; **D** = Design; **O** = Other (describe on separate sheet)
3. See 3-digit control device codes listed in appendix.
4. Note control efficiency will be zero if there is no control device **OR** the emission factor accounts for controls (i.e. EF is identified to be "with controls").
5. Annual Emissions = ANNUAL THRUPUT x EF x FP x (1/2000) x (100-CE)/100 ; Ozone Emissions = DAILY THRUPUT x EF x FP x (100-CE)/100

LP GAS

2002 EMISSION CALCULATIONS
(ON I: EMISSION FACTOR MI D

REGISTRATION #: 51-177-0039 POINT NO. 001 SEGMENT NO. 02 SCC NO. 1030/002

	ANNUAL		OZONE SEASON = JUNE, JULY, AUGUST	
THRUPUT (with units)	106,762 gal			
NO. OPERATING DAYS	days		days	
NO. OPERATING HOURS PER DAY	hours		hours	
DAILY THRUPUT (with units) = Thruput ÷ days	NA		per day	
VOC EMISSION FACTOR (with units) = EF	0.47#/1000 gal			
Emission Factor source[1] / Control Efficiency basis[2]	AP-42			
VOC CONTROL DEVICE CODE[3]				
Avg. VOC CONTROL EFFICIENCY[4] = CE	%		%	
VOC EMISSIONS[5]	0.025 tons VOC per yr		lbs VOC per day	
NOx EMISSION FACTOR (with units) = EF	8.8#/1000 gal			
Emission Factor source[1] / Control Efficiency basis[2]	AP-42			
NOx CONTROL DEVICE CODE[3]				
Avg. NOx CONTROL EFFICIENCY[4] = CE	%		%	
NOx EMISSIONS[5]	0.47 tons NOx per yr		lbs NOx per day	
SO2 EMISSION FACTOR (with units) = EF	86#/1000gal x.019			
Emission Factor source[1] / Control Efficiency basis[2]	AP-42			
FUEL PARAMETER (% ash or % sulfur) = FP	%		%	
SO2 CONTROL DEVICE CODE[3]				
Avg. SO2 CONTROL EFFICIENCY[4] = CE	%		%	
SO2 EMISSIONS[5]	0.087 tons SO2 per yr		lbs SO2 per day	
PM10 EMISSION FACTOR (with units) = EF				
Emission Factor source[1] / Control Efficiency basis[2]				
FUEL PARAMETER (% ash or % sulfur) = FP	%		%	
PM10 CONTROL DEVICE CODE[3]				
Avg. PM10 CONTROL EFFICIENCY[4] = CE	%		%	
PM10 EMISSIONS[5]	tons PM10 per yr		lbs PM10 per day	
PB EMISSION FACTOR (with units) = EF				
Emission Factor source[1] / Control Efficiency basis[2]				
PB CONTROL DEVICE CODE[3]				
Avg. PB CONTROL EFFICIENCY[4] = CE	%		%	
PB EMISSIONS[5]	tons PB per yr		lbs PB per day	
TRS Emission Factor (with units) = EF				
Emission Factor source[1] / Control Efficiency basis[2]				
TRS CONTROL DEVICE CODE[3]				
Avg. TRS CONTROL EFFICIENCY[4] = CE	%		%	
TRS EMISSIONS[5]	tons TRS per yr		lbs TRS per day	

1. AP-42; CEMS; ST = Stack test; F = Federal factor (EPA standard factor); O = Other (describe on separate sheet; use subject to DEQ approval)
2. A = Tested (by EPA Reference Method); B = Tested (other); C = Material balance; D = Design; O = Other (describe on separate sheet)
3. See 3-digit control device codes listed in appendix.
4. Note control efficiency will be zero if there is no control device OR the emission factor accounts for controls (i.e. EF is identified to be "with controls").
5. Annual Emissions = ANNUAL THRUPUT x EF x FP x (1/2000) x (100-CE)/100 ; Ozone Emissions = DAILY THRUPUT x EF x FP x (100-CE)/100

ITEM	EMISSION	EMISSION FACTOR FORMULA
Heating Oil	NOX	20#/1000 Gallons
	SO2	143.6#/1000 Gallons
	VOC	0.34#/1000 Gallons
	PM10	1.08#/1000 Gallons
LP Gas	NOX	8.8#/1000 Gallons
	SO2	86#/1000 Gallons
	VOC	0.47#/1000 Gallons
	PM10	N/A
deqfact.xls		

VOC EMISSIONS	POUNDS OF EMISSIONS	TONS OF EMISSIONS
VOC		
Facility Total/Coating Operations	37,613	
MDI Emissions	2	
Heating Oil (.34X75.8)	26	
L.P. Gas (.47X106.8)	50	
TOTAL VOC EMISSIONS	**37,691**	**18.8**
NOX		
Facility Total/Coating Operations	-	
Heating Oil (20X75.8)	1,516	
L.P. Gas (8.8X106.8)	940	
TOTAL NOX EMISSIONS	**2,456**	**1.2**
SO2		
Facility Total/Coating Operations	-	
Heating Oil (.30X10885#)	3,266	
L.P. Gas (.019X9185#)	176	
TOTAL SO2 EMISSIONS	**3,442**	**1.7**
PM10		
Facility Total/Coating Operations	-	
Heating Oil (1.08X75.8)	82	
L.P. Gas	-	
TOTAL PM10 EMISSIONS	**82**	**0.0**

2002 THROUGHPUT:

VOC Emissions: 37,613 lbs

Heating Oil: 75.8m gallons

LP Gas: 106.8m gallons

VOC DETAIL

G-Bldg: 3,538 lbs	**1.77 Tons**
Ransburg: 34,076 lbs	**17.04 Tons**

Event	Date	Initials
Code: CES	5/19/03	TAS
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QC		

2002 filing

D.E.Q.-Air Permit Reporting

(quantities = lbs.)

Date		Ransburg/Nordson	G-building	Facility Total
1/31/2002	Paint/Diluent Used	50221.0	364.4	50585.4
1/31/2002	V.O.C. Emissions	2694.0	236.9	2930.9
1/31/2002	Net Solvent Usage	558.7	145.2	703.9
2/28/2002	Paint/Diluent Used	47651.5	503.8	48155.3
2/28/2002	V.O.C. Emissions	2482.1	367.3	2849.4
2/28/2002	Net Solvent Usage	452.6	319.4	772.0
3/31/2002	Paint/Diluent Used	74138.5	494.5	74633.0
3/31/2002	V.O.C. Emissions	3683.6	464.5	4148.1
3/31/2002	Net Solvent Usage	504.4	442.9	947.3
	QUARTERLY TOTALS			
	Paint/Diluent Used	172011.0	1362.7	173373.7
	V.O.C. Emissions	8859.7	1068.7	9928.4
	Net Solvent Usage	1515.7	907.5	2423.2

Date		Ransburg/Nordson	G-building	Facility Total
4/30/2002	Paint/Diluent Used	72277.0	734	73011.0
4/30/2002	V.O.C. Emissions	2818.7	612.1	3430.8
4/30/2002	Net Solvent Usage	-276.2	544.5	268.3
5/31/2002	Paint/Diluent Used	34334.1	137.7	34471.8
5/31/2002	V.O.C. Emissions	2468.8	91.3	2560.1
5/31/2002	Net Solvent Usage	991.4	50.8	1042.2
6/30/2002	Paint/Diluent Used	45116.5	513.9	45630.4
6/30/2002	V.O.C. Emissions	2838.8	372.9	3211.7
6/30/2002	Net Solvent Usage	908.3	275.9	1184.2
	QUARTERLY TOTALS			
	Paint/Diluent Used	151727.6	1385.6	153113.2
	V.O.C. Emissions	8126.3	1076.3	9202.6
	Net Solvent Usage	1623.5	871.2	2494.7

Date		Ransburg/Nordson	G-building	Facility Total
7/31/2002	Paint/Diluent Used	65827.0	388.8	66215.8
7/31/2002	V.O.C. Emissions	3034.5	276.3	3310.8
7/31/2002	Net Solvent Usage	171.3	181.5	352.8
8/31/2002	Paint/Diluent Used	51709.0	798.8	52507.8
8/31/2002	V.O.C. Emissions	3655.7	606.8	4262.5
8/31/2002	Net Solvent Usage	1037.7	580.8	1618.5
9/30/2002	Paint/Diluent Used	56129.0	-226.3	55902.7
9/30/2002	V.O.C. Emissions	2999.8	-328.9	2670.9
9/30/2002	Net Solvent Usage	605.8	-399.3	206.5
	QUARTERLY TOTALS			
	Paint/Diluent Used	173665.0	961.3	174626.3
	V.O.C. Emissions	9690.0	554.2	10244.2
	Net Solvent Usage	1814.8	363.0	2177.8

Date		Ransburg/Nordson	G-building	Facility Total
10/31/2002	Paint/Diluent Used	52158.1	490.1	52648.2
10/31/2002	V.O.C. Emissions	2796.9	171.5	2968.4
10/31/2002	Net Solvent Usage	550.5	145.2	695.7
11/30/2002	Paint/Diluent Used	32763.5	988.8	33752.3
11/30/2002	V.O.C. Emissions	1967.9	624.7	2592.6
11/30/2002	Net Solvent Usage	557.1	580.8	1137.9
12/31/2002	Paint/Diluent Used	49337.0	47.8	49384.8
12/31/2002	V.O.C. Emissions	2634.9	42.1	2677.0
12/31/2002	Net Solvent Usage	451.7	36.3	488.0
	QUARTERLY TOTALS			
	Paint/Diluent Used	134258.6	1526.7	135785.3
	V.O.C. Emissions	7399.7	838.3	8238.0
	Net Solvent Usage	1559.3	762.3	2321.6
	YEAR TO DATE TOTALS			
	Paint/Diluent Used	631662.2	5236.3	636898.5
	V.O.C. Emissions	34075.7	3537.5	37613.2
	Net Solvent Usage	6513.3	2904.0	9417.3

Event	Date	Initials
Code: CES	5/19/03	TAS
Scanned		
QC		

Appendix B

New Source Review Permit for
Therma-Tru Virginia, LLC
Dated October 2, 2003

FSO-426-03

COMMONWEALTH of VIRGINIA

DEPARTMENT OF ENVIRONMENTAL QUALITY

W. Tayloe Murphy, Jr.
Secretary of Natural Resources

806 Westwood Office Park
Fredericksburg, Virginia 22401
(540) 899-4600 Fax (540) 899-4647
www.deq.state.va.us

Robert G. Burnley
Director

Jeffery A. Steers
Regional Director

October 2, 2003

Mr. Greg Menke
Plant Manager
Therma-Tru Virginia, LLC
Therma-Tru Corporation
3000 Mine Road
Fredericksburg, Virginia 22408

Registration Number: 40331

Dear Mr. Menke:

Attached is a permit to operate a miscellaneous metal parts and products coating facility in accordance with the provisions of the State Air Pollution Control Board's (Board's) Regulations for the Control and Abatement of Air Pollution (Regulations). The attached permit supersedes your permit of March 6, 1998.

This permit contains legally enforceable conditions. Failure to comply may result in a Notice of Violation and civil penalty. Please read all permit conditions carefully.

In the course of evaluating the application to operate a miscellaneous metal parts and products coating facility and arriving at a final decision to approve the project, the Department of Environmental Quality (DEQ) deemed the application complete on September 17, 2003.

This approval to operate a miscellaneous metal parts and products coating facility shall not relieve Therma-Tru Virginia, LLC of the responsibility to comply with all other local, state and federal permit requirements.

The Board's Regulations as contained in Title 9 of the Virginia Administrative Code 5-170-200 provides that you may request a formal hearing from this case decision by filing a petition with the Board within thirty days after this case decision notice was mailed or delivered to you. 9 VAC 5-170-180 provides that you may request direct consideration of the decision by the Board if the Director of the DEQ made the decision. Please consult the relevant regulations for additional requirements for such requests.

As provided by Rule 2A: 2 of the Supreme Court of Virginia, you have thirty days from the date of service of this decision (the date you actually received this decision or the date on which it was mailed to you, whichever occurred first), within which to initiate an appeal of the decision by filing a Notice of Appeal with:

Robert G. Burnley, Director
Department of Environmental Quality
P.O. Box 10009
Richmond Virginia 23240-0009

In the event that this decision is served on you by mail, three days are added to the period in which to file an appeal. Please refer to Part Two A of the Rules of the Supreme Court of Virginia for information on the content of the Notice of Appeal and for additional requirements governing appeals from decisions of administrative agencies.

If you have any questions concerning this permit or any other air pollution issue please feel free to contact the regional office at (703) 583-3847 or Mr. D. Vaughan at (540) 899-4508.

Sincerely,

Terry H. Darton
Regional Air Permit Manager

THD/ADV)/thd03426nsr

Attachment: New Source Review Permit

Cc: Director, OAPP (electronic file submission)
Manager, Data Analysis (electronic submission)

FSO-426-03

COMMONWEALTH of VIRGINIA

DEPARTMENT OF ENVIRONMENTAL QUALITY

W. Tayloe Murphy, Jr.
Secretary of Natural Resources

806 Westwood Office Park
Fredericksburg, Virginia 22401
(540) 899-4600 Fax (540) 899-4647
www.deq.state.va.us

Robert G. Burnley
Director

Jeffery A. Steers
Regional Director

STATIONARY SOURCE PERMIT TO MODIFY AND OPERATE

This permit supercedes your permit dated March 6, 1998.

In compliance with the Federal Clean Air Act and the Commonwealth of Virginia Regulations for the Control and Abatement of Air Pollution,

Therma-Tru Virginia, LLC
Therma-Tru Corporation
3000 Mine Road
Fredericksburg, Virginia 22408
Registration No.: 40331
AIRS ID No.: 51-177-0039

is authorized to modify and operate

a miscellaneous metal parts and products coating facility and a door manufacturing facility

located at

3000 Mine Road, Fredericksburg, Spotsylvania County, Virginia

in accordance with the Conditions of this permit.

Approved on October 2, 2003.

Robert G. Burnley
Director, Department of Environmental Quality

Permit consists of 8 pages.
Permit Conditions 1 to 19.

PERMIT CONDITIONS - the regulatory reference or authority for each condition is listed in parentheses ( ) after each condition.

APPLICATION

1. Except as specified in this permit, the permitted facility is to be modified and operated as represented in the permit applications dated August 17, 1993, amended January 7, 1994, April 7, 1994, June 1, 1994; November 17, 1997, amended February 3, 1998; and September 2, 2003. Any changes in the permit application specifications or any existing facilities which alter the impact of the facility on air quality may require a permit. Failure to obtain such a permit prior to construction may result in enforcement action.
(9 VAC 5-50-390 and 9 VAC 5-80-10 K 4)

2. Reactivation of the expanded polystyrene foam panel embossing process, PVC extrusion lines, or Nordson coating application system may require a permit.
(9 VAC 5-80 Article 6)

PROCESS REQUIREMENTS

3. **Equipment List** - Previously permitted equipment at this facility prior to the date of this permit consists of:

   - Ransburg coating application system which includes two automated spray booths (emission units 07 and 08), one manual pre-coating spray paint booth (emission unit 06), two manual spray paint repair/touch-up booths (emission units 01 and 02), and

   - G-Building metal fabricated products and coating operations including one manual spray paint booth (emission unit 16), one silk screen paint applicator and one drying oven (emission unit 17).

   (9 VAC 5-80-1100 A)

4. **Emission Controls** - Particulate emissions from the spray booths associated with the Ransburg coating system and G-Building metal fabricated products coating operations shall be controlled by Paint Arrestor 3000 filters, or equivalent. The filters shall be provided with adequate access for inspection.

   Filters providing an equivalent or greater control efficiency than the Paint Arrestor 3000 filters, as specified in the original permit application, may be installed on each coating system. The source shall maintain manufacturer's specifications including, but not limited to, the control efficiency of each substitute filter and the Paint Arrestor 3000 filter. Such records shall be maintained on the plant site for at least two years from the date of installation of the substitute filter.
(9 VAC 5-50-260)

EMISSION LIMITATIONS

5. **Emission Limits -** Emissions from the operation of the Ransburg coating system shall not exceed the limits specified below:

Volatile Organic Compounds	30.0 tons/month	240.0 tons/yr

Monthly emissions shall be calculated monthly on a calendar month basis. Annual emissions shall be calculated monthly as the sum of each twelve consecutive month period.
(9 VAC 5-50-260)

6. **Emission Limits -** Emissions from the operation of the G-building metal fabricated product coating application system shall not exceed the limits specified below:

Volatile Organic Compounds	6.3 tons/month	50.0 tons/yr

Monthly emissions shall be calculated monthly on a calendar month basis. Annual emissions shall be calculated monthly as the sum of each twelve consecutive month period.

(9 VAC 5-50-260)

7. **Emission Limits -** Combined emissions from the operation of the Ransburg coating system and G-building metal fabricated products coating application system shall not exceed the limits specified below:

Volatile Organic Compounds	248.0 tons/yr

Annual emissions shall be calculated monthly as the sum of each consecutive twelve month period.

(9 VAC 5-50-260)

RECORDS

8. **On Site Records -** The permittee shall maintain records of emission data and operating parameters as necessary to demonstrate compliance with this permit. The content and format of such records shall be arranged with the Air Compliance Manager, Northern Virginia Regional Office. These records shall include, but are not limited to the following:

   a. For the entrance door coating operation, maintain monthly and annual throughput, in units of mass, for each 1) paint or coating (undiluted), 2) diluent used, 3) cleaning agents, 4) adhesive, and 5) other solutions containing VOC. Annual throughput shall be calculated monthly as the sum of each consecutive twelve month period.

For each raw material used in the entrance door coating operation that contains VOCs, maintain records indicating: the name of the product (coating, diluent, adhesive, cleaning agent, etc.), VOC content on a percent weight basis, and density of the product.

b. For the G-building metal fabricated products coating operation, maintain monthly and annual throughput, in units of mass, for each 1) paint or coating (undiluted), 2) diluent used, 3) cleaning agents, 4) adhesive, and 5) other solutions containing VOC. Annual throughput shall be calculated monthly as the sum of each consecutive twelve month period.

   For each raw material used in the G-building metal fabricated products coating operation that contains VOCs, maintain records indicating: the name of the product (coating, diluent, adhesive, cleaning agent, etc.), VOC content on a percent weight basis, and density of the product.

c. Monthly and annual VOC emissions (in tons) from 1) the entrance door coating operation, 2) the G-building metal fabricated products coating operation, and 3) the sum of all coating operations. Annual VOC emissions shall be calculated monthly as the sum of each consecutive twelve month period.

d. The date and time when filters providing an equivalent or greater control efficiency than the Paint Arrestor 3000 filters are installed on any of the components of the coating application systems or metal fabricated products coating operations.

These records shall be available for inspection by the DEQ and shall be current for at least the most recent five years.
(9 VAC 5-50-50)

REPORTING

9. The permittee shall submit the following information according to a schedule to be arranged with the Air Compliance Manager, Northern Virginia Regional Office:

   a. Quarterly and annual coating dispensed (undiluted) and solvent throughput for the entire facility.

   b. Quarterly and annual VOC emissions from the entrance door products coating operations.

   c. Quarterly and annual VOC emissions from the G Building coating operations.

   d. Quarterly and annual VOC emissions from the entire facility.

Each reporting period shall contain monthly entries for annual throughput and annual VOC emissions, calculated monthly as the sum of each consecutive twelve month period.

(9 VAC 5-50-50)

GENERAL CONDITIONS

10. **Right of Entry** - The permittee shall allow authorized local, state, and federal representatives, upon the presentation of credentials:

    a. To enter upon the permittee's premises on which the facility is located or in which any records are required to be kept under the terms and conditions of this permit;

    b. To have access to and copy at reasonable times any records required to be kept under the terms and conditions of this permit or the State Air Pollution Control Board's Regulations;

    c. To inspect at reasonable times any facility, equipment, or process subject to the terms and conditions of this permit or the State Air Pollution Control Board's Regulations; and

    d. To sample or test at reasonable times.

    For purposes of this condition, the time for inspection shall be deemed reasonable during regular business hours or whenever the facility is in operation. Nothing contained herein shall make an inspection time unreasonable during an emergency. (9 VAC 5-170-130)

11. **Notification for Control Equipment Maintenance** - The permittee shall furnish notification to the Air Compliance Manager, Northern Virginia Regional Office of the intention to shut down or bypass, or both, air pollution control equipment for necessary scheduled maintenance, which results in excess emissions for more than one hour, at least 24 hours prior to the shutdown. The notification shall include, but is not limited to, the following information:

    a. Identification of the air pollution control equipment to be taken out of service, as well as its location, and registration number;

    b. The expected length of time that the air pollution control equipment will be out of service;

    c. The nature and quantity of emissions of air pollutants likely to occur during the shutdown period;

d. Measures that will be taken to minimize the length of the shutdown or to negate the effect of the outage.

(9 VAC 5-20-180 B)

12. **Notification for Facility Malfunction or Control Equipment Malfunction** - The permittee shall furnish notification to the Air Compliance Manager, Northern Virginia Regional Office of malfunctions of the affected facility or related air pollution control equipment that may cause excess emissions for more than one hour, by facsimile transmission, telephone or telegraph. Such notification shall be made as soon as practicable but not later than four daytime business hours. The permittee shall provide a written statement giving all pertinent facts, including the estimated duration of the breakdown, within 14 days of the occurrence. When the condition causing the failure or malfunction has been corrected and the equipment is again in operation, the permittee shall notify Air Compliance Manager, Northern Virginia Regional Office in writing.
(9 VAC 5-20-180 C)

13. **Violation of Ambient Air Quality Standard** - The permittee shall, upon request of the DEQ, reduce the level of operation or shut down a facility, as necessary to avoid violating any primary ambient air quality standard and shall not return to normal operation until such time as the ambient air quality standard will not be violated.
(9 VAC 5-20-180 I)

14. **Maintenance/Operating Procedures** - The permittee shall take the following measures in order to minimize the duration and frequency of excess emissions, with respect to air pollution control equipment and process equipment which affect such emissions:

    a. Develop a maintenance schedule and maintain records of all scheduled and non-scheduled maintenance.

    b. Maintain an inventory of spare parts.

    c. Have available written operating procedures for equipment. These procedures shall be based on the manufacturer's recommendations, at a minimum.

    d. Train operators in the proper operation of all such equipment and familiarize the operators with the written operating procedures. The permittee shall maintain records of the training provided including the names of trainees, the date of training and the nature of the training.

    Records of maintenance and training shall be maintained on site for a period of five years and shall be made available to DEQ personnel upon request.
    (9 VAC 5-50-20 E)

15. **Permit Suspension/Revocation** - This permit may be suspended or revoked if the permittee:

    a. Knowingly make material misstatements in the application for this permit or any amendments to it;

    b. Fails to comply with the conditions of this permit;

    c. Fails to comply with any emission standards applicable to the equipment listed in Condition 2;

    d. Causes emissions from this facility which result in violations of, or interferes with the attainment and maintenance of, any ambient air quality standard;

    e. Fails to operate this facility in conformance with any applicable control strategy, including any emission standards or emission limitations, in the State Implementation Plan in effect on the date that the application for this permit is submitted;

    f. Fails to construct or operate this facility in accordance with the application for this permit or any amendments to it; or

    g. Allows the permit to become invalid.

    (9 VAC 5-80-10 K)

16. **Change of Ownership** - In the case of a transfer of ownership of a stationary source, the new owner shall abide by any current permit issued to the previous owner. The new owner shall notify the Northern Virginia Region, Fredericksburg Satellite Office of the change of ownership within 30 days of the transfer.
    (9 VAC 5-80-1240)

17. **Registration/Update** - Annually the permittee will be required to provide information to the DEQ or the Board, which will be used to maintain the currency of the stationary source emissions database. The information requested may include, but is not limited to: process and production data; changes in control equipment; and operating schedules. Such requests for information from the DEQ will either be in writing or by personal contact. The availability of information submitted to the DEQ or the Board will be governed by applicable provisions of the Freedom of Information Act, §§ 2.1-340 through 2.1-348 of the Code of Virginia, § 10.1-1314 (addressing information provided to the Board) of the Code of Virginia, and 9 VAC 5-170-60 of the State Air Pollution Control Board's Regulations. Information provided to federal officials is subject to appropriate federal law and regulations governing confidentiality of such information.
    (9 VAC 5-170-60 and 9 VAC 5-20-160)

18. **Permit Copy** - The permittee shall keep a copy of this permit on the premises of the facility to which it applies.
(9 VAC 5-80-860D)

STATE ONLY ENFORCEABLE CONDITION

19. **State Toxics Rule -** The permittee shall operate this facility in compliance with 9 VAC Chapter 60, Article 5 (Rule 6-5), for all toxic compounds.
(9 VAC 5-60-300 and 9 VAC 5-80-1120F)