

STATE OF MISSOURI



DEPARTMENT OF NATURAL RESOURCES

MISSOURI AIR CONSERVATION COMMISSION

PERMIT TO CONSTRUCT

Under the authority of RSMo 643 and the Federal Clean Air Act the applicant is authorized to construct the air contaminant source(s) described below, in accordance with the laws, rules and conditions as set forth herein.

Permit Number: **032007 - 006** Project Number: 2006-12-023

Parent Company: Nooter Corporation

Parent Company Address: 1500 South Second Street, St. Louis, MO 63104

Installation Name: St. Louis Metallizing Company

Installation Address: 4123 Sarpy Avenue, St. Louis, MO 63110

Location Information: City of St. Louis

Application for Authority to Construct was made for:
Decommissioning of 5 spray booths. Materials from the decommissioned spray booth will be used to reconstruct and relocate 3 spray booths and their associated duct work and dust collection devices. An additional brand new spray booth will also be constructed. This review was conducted in accordance with Section (5), Missouri State Rule 10 CSR 10-6.060, *Construction Permits Required*.

- Standard Conditions (on reverse) are applicable to this permit.
- Standard Conditions (on reverse) and Special Conditions are applicable to this permit.

MAR 26 2007

EFFECTIVE DATE


DIRECTOR OR DESIGNEE
DEPARTMENT OF NATURAL RESOURCES

STANDARD CONDITIONS:

Permission to construct may be revoked if you fail to begin construction or modification within two years from the effective date of this permit. Permittee should notify the Air Pollution Control Program if construction or modification is not started within two years after the effective date of this permit, or if construction or modification is suspended for one year or more.

You will be in violation of 10 CSR 10-6.060 if you fail to adhere to the specifications and conditions listed in your application, this permit and the project review. In the event that there is a discrepancy between the permit application and this permit, the conditions of this permit shall take precedence. Specifically, all air contaminant control devices shall be operated and maintained as specified in the application, associated plans and specifications.

You must notify the department's Air Pollution Control Program of the anticipated date of start up of this (these) air contaminant source(s). The information must be made available not more than 60 days but at least 30 days in advance of this date. Also, you must notify the Department of Natural Resources Regional office responsible for the area within which you are located with 15 days after the actual start up of this (these) air contaminant source(s).

A copy of this permit and permit review shall be kept at the installation address and shall be made available to Department of Natural Resources' personnel upon request.

You may appeal this permit or any of the listed special conditions to the Administrative Hearing Commission (AHC), P.O. Box 1557, Jefferson City, MO 65102, as provided in RSMo 643.075.6 and 621.250.3. If you choose to appeal, you must file a petition with the AHC within 30 days after the date this decision was mailed or the date it was delivered, whichever date was earlier. If any such petition is sent by registered mail or certified mail, it will be deemed filed on the date it is mailed. If it is sent by any method other than registered mail or certified mail, it will be deemed filed on the date it is received by the AHC.

If you choose not to appeal, this certificate, the project review and your application and associated correspondence constitutes your permit to construct. The permit allows you to construct and operate your air contaminant source(s), but in no way relieves you of your obligation to comply with all applicable provisions of the Missouri Air Conservation Law, regulations of the Missouri Department of Natural Resources and other applicable federal, state and local laws and ordinances.

The Air Pollution Control Program invites your questions regarding this air pollution permit. Please contact the Construction Permit Unit at (573) 751-4817. If you prefer to write, please address your correspondence to the Missouri Department of Natural Resources, Air Pollution Control Program, P.O. Box 176, Jefferson City, MO 65102-0176, attention: Construction Permit Unit.

Page No.	3
Permit No.	
Project No.	2006-12--023

SPECIAL CONDITIONS:

The permittee is authorized to construct and operate subject to the following special conditions:

The special conditions listed in this permit were included based on the authority granted the Missouri Air Pollution Control Program by the Missouri Air Conservation Law (specifically 643.075) and by the Missouri Rules listed in Title 10, Division 10 of the Code of State Regulations (specifically 10 CSR 10-6.060). For specific details regarding conditions, see 10 CSR 10-6.060 paragraph (12)(A)10. "Conditions required by permitting authority."

St. Louis Metallizing Company

1. **Superseding Condition**
The conditions of this permit supersede all special conditions found in the previously issued construction permit, Permit Number 96-02-011A, from the City of St. Louis Air Pollution Control Program.
2. St. Louis Metallizing Company shall control emissions from the emission processes listed in Table 1 using cartridge filters as specified in the permit application. The cartridge filters shall be operated and maintained in accordance with the manufacturer's specifications. The cartridge filter shall be equipped with a gauge or meter, which indicates the pressure drop across the control device. These gauges or meters shall be located such that the City of St. Louis employees may easily observe them. Replacement cartridges for the cartridge filters shall be kept on hand at all times. The cartridges shall be made of material appropriate for operating conditions expected to occur (i.e. temperature limits, acidic and alkali resistance, and abrasion resistance).
3. St. Louis Metallizing Company shall monitor and record the operating pressure drop across the cartridge filters at least once every week. The operating pressure drop shall be maintained within the design conditions specified by the manufacturer's performance warranty.
4. St. Louis Metallizing Company shall maintain an operating and maintenance log for the cartridge filters which shall include the following:
 - A. Incidents of malfunction, with impact on emissions, duration of event, probable cause, and corrective actions; and
 - B. Maintenance activities, with inspection schedule, repair actions, and replacements, etc.
5. St. Louis Metallizing Company will remove or render inoperable EU-140 (spray booth 5E) and EU-150 (spray booth 5J) before start up of EU-110 (spray booth 5B), EU-120 (spray booth 5C) and EU-130 (spray booth 5D).

Page No.	4
Permit No.	
Project No.	2006-12--023

SPECIAL CONDITIONS:

The permittee is authorized to construct and operate subject to the following special conditions:

Table 1. Emission Points Controlled by Cartridge Filters

Emission Point	Emission Process	Control Device	Control Device Type
EP-2	Abrasive Blasting	CD-2	Cartridge Filter
EP5	Flame Spraying	CD-5	Cartridge Filter
	Arc Spraying		
	Plasma Spraying		
	HVOF Spraying		

REVIEW OF APPLICATION FOR AUTHORITY TO CONSTRUCT
SECTION (5) REVIEW

Project Number: 2006-12-023
Installation ID Number: 510-0175
Permit Number:

St. Louis Metallizing Company
4123 Sarpy Avenue
St. Louis, MO 63110

Complete: 12/08/2007
Reviewed: 01/31/2007

Parent Company:
Nooter Corporation
1500 South Second Street
St. Louis, MO 63104

REVIEW SUMMARY

- St. Louis Metallizing Company has applied for authority to decommission 5 spray booths. Material from the decommissioned spray booth will be used to reconstruct and relocate 3 spray booths and associated duct work and dust collection devices. An additional brand new spray booth will also be constructed.
- Hazardous Air Pollutant (HAP) emissions are not expected from the proposed equipment.
- None of the New Source Performance Standards (NSPS) apply to the proposed equipment.
- None of the National Emission Standards for Hazardous Air Pollutants (NESHAPs) or currently promulgated Maximum Achievable Control Technology (MACT) regulations apply to the proposed equipment. SLM uses High Velocity Oxy-Fuel (HVOF), plasma thermal spray, electric arc and powder and wire combustion processes for coating operations. The coatings do not contain any HAPs and therefore SLM is not subject to any of the surface coating MACTs.
- Cartridge filters are being used to control the pollutant emissions from the equipment in this permit.
- This review was conducted in accordance with Section (5) of Missouri State Rule 10 CSR 10-6.060, *Construction Permits Required*. Potential emissions of PM₁₀ are below de minimis levels.
- This installation is located in City of St. Louis, a nonattainment area for ozone (O₃) and an attainment area for all other criteria air pollutants.
- This installation is not on the List of Named Installations [10 CSR 10-6.020(3)(B), Table

2].

- Ambient air quality modeling was not performed since potential emissions of the application are below de minimis levels.
- Emissions testing is not required for the equipment.
- A Part 70 Operating Permit revision is required for this installation within 1 year of equipment startup.
- Approval of this permit is recommended with special conditions.

INSTALLATION DESCRIPTION

St. Louis Metallizing Company (SLM) is located within the City of St. Louis, Missouri. It is a full-service quality thermal spray and finishing shop, offering a complete production facility for preparation, thermal spray, finishing, quality assurance and technical assistance to original equipment manufacturers as well as customers who require restoration of parts.

The company's capabilities include: High Velocity Oxy-Fuel (HVOF), plasma thermal spray, electric arc and powder and wire combustion processes. Six-axis robots support production capabilities for printing cylinder restoration, turbine components, hydraulic cylinder rods, and rotating equipment.

SLM is a major source under operating permits and was issued with Part 70 permit number OP2004-013. Table 2 shows the construction permits that have been issued to SLM from the City of St. Louis Air Pollution Control Program.

Table 2. Construction Permits Issued to St. Louis Metallizing Company

Permit Number	Description
00-02-012	Powder Spray Booth
01-08-025	Trichloroethylene Parts Washer
96-02-011A	Metal Spraying & Blast Cabinets
97-07-070	Spray Gun Limits
00-02-012A	Powder Spray Booth
02-10-024	Spraying Units
00-02-012A PM	Monitoring Requirements
06-02-003	Solvent Change

PROJECT DESCRIPTION

SLM is proposing to disassemble spray booths 5B, 5C, 5D, 5E and 5J together with their associated ductwork and dust collectors. The dust collectors will be relocated and reused with reassembled spray booths. Materials from the disassembled spray booths will be used to create three new spray booths (5B, 5C and 5D). Three existing blast cabinets (2A, 2B and 2C) will be relocated into spray booth 5C but will retain their duct work and dust collectors. In addition to the reassembled booths a brand new spray booth (5P) will be constructed.

All spray booths will be fully enclosed and will have an access door as well as inlet vents. Emissions from the spray booths will be ducted to dust collectors. Dry dust collectors (cartridge filters) acts as the emission mitigation devices for spray booths and/or abrasive blast cabinets.

Particulate matter less than 10 microns in diameter (PM₁₀) is the only pollutant that will be emitted from the thermal spray process. The materials used in the thermal spray process do not contain volatile organic compounds (VOCs) or hazardous air pollutants (HAPs).

Table 3. Spray Booth Maximum Hourly Design Rates and Deposition Efficiency

Emission Process	Spray Torches & Abrasive Blasting		Deposition Efficiency*
	Maximum Hourly Design Rate (lb/hr)	Number	
Abrasive Blasting	100	4	N/A
Flame Spraying	16	3	75%
Arc Spraying	30	3	76%
Plasma Spraying	24	3	60%
HVOF Spraying	20	3	60%

*The ratio, expressed in percent, of the weight of spray deposit to the weight of the material sprayed.

EMISSIONS/CONTROLS EVALUATION

The maximum hourly design rates and transfer efficiencies used in this analysis were provided by the applicant and are based on operating experience of similar thermal spray processes and abrasive blasting. Table 3 above contains this information. A control efficiency of 99% was assumed for the cartridge filters as opposed to 99.9% provided by the applicant. Any control efficiency claim above 99% would have to be justified via testing. It was also assumed that 50% of the particulate matter emitted is PM₁₀. Environmental Protection Agency (EPA) document AP-42, *Compilation of Air Pollutant Emission Factors*, Fifth Edition, Section 13.2.6, *Abrasive Blasting* (9/97) shows a PM₁₀/PM ratio of 13/27 or approximately 48% of PM as PM₁₀ for sand (abrasive) blasting operations.

Potential emissions of the application represent the potential of the new equipment, assuming continuous operation (8760 hours per year.) Table 4 provides an emissions summary for this project.

Table 4. Emissions Summary (tons per year)

Pollutant	Regulatory <i>De Minimis</i> Levels	Existing Potential Emissions	Existing Actual Emissions (2005 EIQ)	Potential Emissions of the Application	New Installation Conditioned Potential
PM ₁₀	15.0	N/D	0.11	2.77	N/A
SO _x	40.0	N/D	0.00	0.00	N/A
NO _x	40.0	N/D	0.27	0.00	N/A
VOC	40.0	N/D	0.14	0.00	N/A
CO	100.0	N/D	0.5	0.00	N/A
HAPs	10.0/25.0	N/D	8.11	0.00	N/A

*N/A = Not Applicable; N/D = Not Determined

Mandating the use of the control devices will ensure that PM₁₀ emissions are below 2.77 tons per year (below the de minimis level) and the production limitation set forth in Section II of Permit no. 96-02-011A will therefore not be necessary. Uncontrolled potential emissions from this project will be 276.82 tons per year of PM₁₀.

PERMIT RULE APPLICABILITY

This review was conducted in accordance with Section (5) of Missouri State Rule 10 CSR 10-6.060, *Construction Permits Required*. Potential emissions of PM₁₀ are below de minimis levels.

APPLICABLE REQUIREMENTS

St. Louis Metallizing Company shall comply with the following applicable requirements. The Missouri Air Conservation Laws and Regulations should be consulted for specific record keeping, monitoring, and reporting requirements. Compliance with these emission standards, based on information submitted in the application, has been verified at the time this application was approved. For a complete list of applicable requirements for your installation, please consult your operating permit.

GENERAL REQUIREMENTS.

- *Submission of Emission Data, Emission Fees and Process Information*, 10 CSR 10-6.110
The emission fee is the amount established by the Missouri Air Conservation Commission annually under Missouri Air Law 643.079(1). Submission of an Emissions Inventory Questionnaire (EIQ) is required April 1 for the previous year's emissions.
- *Operating Permits*, 10 CSR 10-6.065
- *Restriction of Particulate Matter to the Ambient Air Beyond the Premises of Origin*, 10 CSR 10-6.170
- *Restriction of Emission of Visible Air Contaminants*, 10 CSR 10-6.220
- *Control of Odors in the Ambient Air*, 10 CSR 10-5.160

STAFF RECOMMENDATION

On the basis of this review conducted in accordance with Section (5), Missouri State Rule 10 CSR 10-6.060, *Construction Permits Required*, I recommend this permit be granted with special conditions.

Maurice Chemweno
Environmental Engineer

Date

PERMIT DOCUMENTS

The following documents are incorporated by reference into this permit:

- The Application for Authority to Construct form, dated December 5, 2006, received December 8, 2006, designating Nooter Corporation as the owner and operator of the installation.
- U.S. EPA document AP-42, *Compilation of Air Pollutant Emission Factors*, Fifth Edition.

Mr. Klaus Dobler
Environmental Director
St. Louis Metallizing Company
4123 Sarpy Avenue
St. Louis, MO 63110

RE: New Source Review Permit - Project Number: 2006-12-023

Dear Mr. Dobler:

Enclosed with this letter is your permit to construct. Please study it carefully. Also, note the special conditions, if any, on the accompanying pages. The document entitled, "Review of Application for Authority to Construct," is part of the permit and should be kept with this permit in your files.

Operation in accordance with these conditions, your new source review permit application and with your amended operating permit is necessary for continued compliance.

The reverse side of your permit certificate has important information concerning standard permit conditions and your rights and obligations under the laws and regulations of the State of Missouri.

If you have any questions regarding this permit, please do not hesitate to contact me at (573) 751-4817, or you may write to me at the Department of Natural Resources, Air Pollution Control Program, P.O. Box 176, Jefferson City, MO 65102.

Sincerely,

AIR POLLUTION CONTROL PROGRAM

Kendall B. Hale
New Source Review Unit Chief

KBH:mcl

Enclosures

c: City of St. Louis, Air Pollution Control Program, Permitting Section
PAMS File 2006-12-023

Permit Number: