



## 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: **07 2 0 0 8 - 0 0 8** Project Number: 2008-04-066

Parent Company: Aero Metal Finishing, Inc.

Parent Company Address: 2150 North Lark Industrial Drive, Fenton, MO 63026

Installation Name: Aero Metal Finishing, Inc.

Installation Address: 2150 North Lark Industrial Drive, Fenton, MO 63026

Location Information: Jefferson County, S6, T43N, R5E

Application for Authority to Construct was made for:

The installation of a paint booth and associated equipment. This review was conducted in accordance with Section (5), Missouri State Rule 10 CSR 10-6.060, *Construction Permits Required*.

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

JUL 21 2008

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 departments' 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 within 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.

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**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."*

Aero Metal Finishing  
Jefferson County, S6, T43N, R5E

1. **Superseding Condition**  
The conditions of this permit supersede all special conditions found in the previously issued construction permit (Permit Number 122003-003) from the Air Pollution Control Program.
2. **Emission Limitation**
  - A. Aero Metal Finishing shall emit less than 25 tons of Volatile Organic Compounds (VOCs) from the entire installation in any consecutive 12-month period.
  - B. Aero Metal Finishing shall emit less than ten (10) tons individually or twenty-five (25) tons combined of Hazardous Air Pollutants (HAPs) from the entire installation in any consecutive 12-month period.
  - C. Aero Metal Finishing shall emit less than 0.1 ton of Methylene Diphenyl Diisocyanate (CAS# 101-68-8) from the entire installation in any consecutive 12-month period.
  - D. Attachment A, Attachment B and Attachment C or equivalent forms approved by the Air Pollution Control Program shall be used to demonstrate compliance with Special Conditions 2(A), 2(B), and 2(C).
  - E. Aero Metal Finishing shall maintain a list and retain copies of Material Safety Data Sheets (MSDS) for all materials used in the paint booths for the entire facility.
  - F. Aero Metal Finishing shall maintain all records required by this permit for not less than five (5) years and shall make them available immediately to any Missouri Department of Natural Resources' personnel upon request.
  - G. Aero Metal Finishing shall report to the Air Pollution Control Program's Enforcement Section, P.O. Box 176, Jefferson City, MO 65102, no later than ten (10) days after the end of the month during which the records

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**SPECIAL CONDITIONS:**

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

from Special Condition Number 2(D) indicate that the source exceeds the limitation of Special Conditions Number 2(A), 2(B) & 2(C).

**3. Control Device Requirements**

Aero Metal Finishing shall control emissions from the spray guns using a paint booth (EP-01) equipped with filters as specified in the permit application. The paint booth and filters shall be maintained in accordance with the manufacturer's specifications. Replacement filters shall be kept on hand at all times.

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

Project Number: 2008-04-066  
Installation ID Number: 099-0114  
Permit Number:

Aero Metal Finishing  
2150 North Lark Industrial Drive  
Fenton, MO 63026

Complete: April 15, 2008

Parent Company:  
Aero Metal Finishing, Inc.  
2150 North Lark Industrial Drive  
Fenton, MO 63026

Jefferson County, S6, T43N, R5E

REVIEW SUMMARY

- Aero Metal Finishing has applied for authority to install a paint booth and associated equipment.
- Hazardous Air Pollutant (HAP) emissions are expected from the proposed equipment. HAPs of concern from the painting and cleaning process are hexavalent chromium, methylene diphenyl diisocyanate, toluene, ethyl benzene, xylene, methyl isobutyl ketone, naphthalene, and methanol.
- None of the New Source Performance Standards (NSPS) apply to the proposed equipment.
- The following Maximum Achievable Control Technology (MACT) standards apply: 40 CFR Part 63, Subpart HHHHHH, *National Emission Standards for Hazardous Air Pollutants: Paint Stripping and Miscellaneous Surface Coating Operations at Area Sources* applies to the facility and the proposed equipment because of the spray application of coatings containing chromium. 40 CFR Part 63, Subpart N, *National Emission Standards for Chromium Emissions*, applies to the facility but does not apply to the proposed equipment. Subpart N applies to any facility that performs chromium electroplating or chromium anodizing; the facility does not need to be a major source of HAPs for the MACT to apply.
- The following Maximum Achievable Control Technology (MACT) standards do not apply: 40 CFR Part 63, Subpart GG, *National Emission Standards for Aerospace Manufacturing and Rework Facilities*, does not apply to the proposed equipment because the facility is limited to less than 10 tons of any individual HAP and less than 25 tons of combined HAPs. 40 CFR Part 63, Subpart NNNNNN—*National Emission Standards for Hazardous Air Pollutants for Chemical Manufacturing Area Sources: Chromium Compounds*, does not apply to the proposed equipment because the facility does not manufacture chromium compounds.

- None of the National Emission Standards for Hazardous Air Pollutants (NESHAPs) apply to the proposed equipment.
- Filters are being used to control the particulate matter less than 10 microns in diameter (PM<sub>10</sub>) and the non-VOC HAP, hexavalent chromium, 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 are limited to below de minimis levels.
- This installation is located in Jefferson County, a nonattainment area for ozone (O<sub>3</sub>) 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 limited to below de minimis levels for criteria pollutants and HAPs.
- Emissions' testing is not required for the equipment.
- An Intermediate Operating Permit is required for this installation within 90 days of equipment startup.
- Approval of this permit is recommended with special conditions.

## INSTALLATION DESCRIPTION

Aero Metal Finishing operates an aerospace parts finishing operation in Fenton, Missouri. Aerospace parts are cleaned, dried, and then painted. The facility also performs cadmium plating, zinc plating, chromic acid anodizing, and chromate conversion. Aero Metal Finishing currently holds an intermediate operating permit.

The following permits have been issued to Aero Metal Finishing from the Air Pollution Control Program.

Permit Number	Description
0897-028	Original construction permit for metal parts plating tanks and paint spray booths
0897-028A	Correction to special conditions
122003-003	Installation of a chromic acid anodizing tank and an acid bath metal cleaning tank

## PROJECT DESCRIPTION

Aero Metal Finishing has applied for the authority to operate a paint booth and cleaning station located at 538 Mae Court in Fenton, Missouri. Although this paint booth is physically located at a different address than the existing facility, the two facilities are considered one installation for permitting purposes. The equipment for this project was previously part of an auto body repair shop and did not have a construction permit. The process equipment includes a Saico Discovery paint booth equipped with a 1.05 MMbtu natural gas fired heat exchanger. The heat exchanger heats air to dry parts inside the paint booth. There is also a BECCA combo waste solvent recycling and paint gun cleaning system.

The paint booth has a maximum hourly design rate (MHDR) of 2 gallons per hour. This estimate is based on a maximum capacity of 2 paint guns, each having an MHDR of 1 gallon per hour. The paint guns are considered high volume, low pressure (HVLP) conventional spray guns. Aero Metal Finishing will use a variety of coatings in the paint booth, most of them being two or three part mixtures.

Many of the coatings contain hexavalent chromium in the form of Strontium Chromate or Calcium Chromate. Hexavalent chromium is considered a non-VOC HAP. Emissions of hexavalent chromium will be controlled by filters on the paint booth. The application of coatings containing chromium compounds is subject to the recently promulgated MACT, 40 CFR Part 63, Subpart HHHHHH, *National Emission Standards for Hazardous Air Pollutants: Paint Stripping and Miscellaneous Surface Coating Operations at Area Sources*.

At least one of the coatings contains the HAP, Methylene diphenyl diisocyanate (MDI) (CAS # 101-68-8), which has a low screen modeling action level. This HAP is conditioned to below the screen modeling action level due to the limited quantity that Aero Metal Finishing expects to use.

## EMISSIONS/CONTROLS EVALUATION

The emission factors and control efficiencies used in this analysis were obtained by mass balance calculations with information obtained from the MSDS supplied by Aero Metal Finishing and from the Environmental Protection Agency (EPA) document AP-42, *Compilation of Air Pollutant Emission Factors*, Fifth Edition, 1.4 Natural Gas Combustion (07/98). Potential emissions of the application represent the potential of the new equipment, assuming continuous operation (8760 hours per year.) Table 1 provides an emissions summary for this project.

Potential emissions of particulate matter less than ten (10) micrometers in diameter (PM<sub>10</sub>) and hexavalent chromium were calculated assuming a transfer efficiency of 50%. A fiberglass floor filter, a fiberglass extractor filter, and an acrylic paint arrestor filter are being used in series on the paint booth to control the emissions of PM<sub>10</sub> and the non-VOC HAP, hexavalent chromium. Based on manufacturer's data, the filters have a control efficiency of 99.6% for total Particulate Matter (PM) such as hexavalent chromium. A more conservative control efficiency of 95% was assumed for PM<sub>10</sub>.

Since the actual VOC emissions of the facility are small in comparison with its potential to emit, the facility is taking a voluntary limit of 25 tons per year of VOCs. By taking a voluntary limit of less than 25 tons per year of VOCs, 10 CSR 10-5.295 *Control of Emission from Areospace Manufacture and Rework*, will no longer apply to the facility.

Table 1: Emissions Summary (tons per year)

Pollutant	Regulatory De Minimis Levels	Existing Potential Emissions	Existing Actual Emissions (2006 EIQ)	Potential Emissions of the Application	New Installation Conditioned Potential
PM <sub>10</sub>	15.0	3.297	0.07	1.199	4.496
SO <sub>x</sub>	40.0	2.13	0.37	0.003	2.133
NO <sub>x</sub>	40.0	19.16	1.11	0.451	19.611
VOC	40.0	<50	3.24	134.9	<25
CO	100.0	0.47	N/D	0.379	0.849
Toluene	10	N/D	N/D	50.811	<10
Ethyl Benzene	10	N/D	N/D	4.944	N/A
Xylene	10	N/D	N/D	24.315	<10
Hexavalent Chromium	10	N/D	N/D	0.017	N/A
Methyl Isobutyl Ketone	10	N/D	N/D	10.107	<10
Methanol	10	N/D	N/D	18.041	<10
Methylene diphenyl diisocyanate	10	N/D	N/D	4.008	<0.1
Naphthalene	10	N/D	N/D	0.422	N/A
Total HAPs	10.0/25.0	<25	N/D	81.677	<25

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

### 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 VOCs are limited to below de minimis levels and potential emissions of HAPs are limited to less than major levels.

### APPLICABLE REQUIREMENTS

Aero Metal Finishing 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 June 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
- *Restriction of Emission of Odors*, 10 CSR 10-3.090

## SPECIFIC REQUIREMENTS

- *Restriction of Emission of Particulate Matter From Industrial Processes*, 10 CSR 10-6.400
- *Maximum Achievable Control Technology (MACT) Regulations*, 10 CSR 10-6.075, *National Emission Standards for Hazardous Air Pollutants: Paint Stripping and Miscellaneous Surface Coating Operations at Area Sources*, 40 CFR Part 63, Subpart HHHHHH
- *Maximum Achievable Control Technology (MACT) Regulations*, 10 CSR 10-6.075, *National Emission Standards for Chromium Emissions*, 40 CFR Part 63, Subpart N
- *Control of Emissions from Solvent Metal Cleaning*, 10 CSR 10-5.300
- *Control of Emissions from Industrial Surface Coating Operations*, 10 CSR 10-5.330
- *Control of Emission from Solvent Cleanup Operations*, 10 CSR 10-5.455

## 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.

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Kathi Jantz  
Environmental Engineer

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Date

### PERMIT DOCUMENTS

The following documents are incorporated by reference into this permit:

- The Application for Authority to Construct form, dated April 14, 2008, received April 15, 2008, designating Aero Metal Finishing, Inc. as the owner and operator of the installation.
- U.S. EPA document AP-42, *Compilation of Air Pollutant Emission Factors*, Fifth Edition.
- St. Louis Regional Office Regional Office Site Survey, dated April 29, 2008.







Mr. Walter Echols  
President  
Aero Metal Finishing  
2150 North Lark Industrial Drive  
Fenton, MO 63026

RE: New Source Review Permit - Project Number: 2008-04-066

Dear Mr. Echols

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 Kathi Jantz, at the departments' Air Pollution Control Program, P.O. Box 176, Jefferson City, MO 65102 or at (573) 751-4817. Thank you for your attention to this matter.

Sincerely,

**AIR POLLUTION CONTROL PROGRAM**

Kendall B. Hale  
New Source Review Unit Chief

KBH:kfj

Enclosures

c: St. Louis Regional Office  
PAMS File: 2008-04-066  
Permit Number: