

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: 082009-008 Project Number: 2009-04-059

Parent Company: Midwest Metal Finishing

Parent Company Address: 300 S. Comerical Avenue,, St. Clair, MO 63077

Installation Name: Midwest Metal Finishing

Installation Address: 600 West Industrial Drive, Gerald, MO 63037

Location Information: Franklin County, Section 2, Township 42, Range 4

Application for Authority to Construct was made for:
Installation of a 2 gallon per hour Maxium Hourly Design Rate (MHDR) spray gun in a new paint booth with a filter. This review was conducted in accordance with Section (6), 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.

EFFECTIVE DATE

A handwritten signature in black ink, appearing to read "James Karanuk".

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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Project No.	2009-04-059

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."

Midwest Metal Finishing

Franklin County, Section 2, Township 42, Range 4

1. Superseding Condition

The conditions of this permit supersede the special condition 1.A. found in the previously issued construction permit permit Number 082008-010 and project number 2008-04-098 from the Air Pollution Control Program.

2. Emission Limitation

A. Midwest Metal Finishing shall emit less than 0.002 tons (4 lbs) of Chromium (VI) Compounds from the entire installation in any consecutive 12-month period.

B. Midwest Metal Finishing shall emit shall emit less than 0.02 tons (40 lbs) of Hexamethylene Di-Isocyanate from the entire installation in any consecutive 12-month period.

C. Attachment A and Attachment B or equivalent forms approved by the Air Pollution Control Program shall be used to demonstrate compliance with Special Conditions 2.A. and 2.B.. Midwest 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. These records shall include Material Safety Data Sheets (MSDS) for all materials used.

D. Midwest 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 from Special Condition Number 2.C. indicate that the source exceeds the limitations of Special Conditions Number 2.A. or 2.B..

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SPECIAL CONDITIONS:

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

3. **Operational Requirments**
Midwest Metal Finishing shall keep the paint solvents and cleaning solutions in sealed containers whenever the materials are not in use. Midwest Metal Finishing shall provide and maintain suitable, easily read, permanent markings on all inks, solvent and cleaning solution containers used with this equipment.

REVIEW OF APPLICATION FOR AUTHORITY TO CONSTRUCT AND OPERATE
SECTION (6) REVIEW

Project Number: 2009-04-059
Installation ID Number: 071-0223
Permit Number:

Midwest Metal Finishing
600 West Industrial Drive
Gerald, MO 63037

Complete: 04/29/2009

Parent Company:
Midwest Metal Finishing
300 S. Comerical Avenue,
St. Clair, MO 63077

Franklin County, Section 2, Township 42, Range 4

REVIEW SUMMARY

- Midwest Metal Finishing has applied for authority to install a 2 gal per hour MHDR spray gun in a new paint booth with a stack and filter.
- Hazardous Air Pollutant (HAP) emissions are expected from the proposed equipment. HAPs of concern from this process are Hexamethylene Di-Isocyanate (CAS # 822-06-0), Xylene (CAS # 1330-20-7), Ethyl Benzene (CAS # 100-41-4), Toluene (CAS # 108-88-3), Methyl Isobutyl Ketone (MIBK) (CAS # 108-10-1), Cumene (CAS # 98-82-8), 2-nitropropane (CAS #79-46-9) and Strontium Chromate (CAS # 7789-06-2).
- 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 applies to the proposed equipment. 40 CFR Part 63, Subpart M, *National Emission Standard for Hazardous Air Pollutants for Surface Coating of Miscellaneous Metal Parts and Products*, does not apply to this installation since the amount of HAPs do not exceed major thresholds and Strontium Chromate and Hexamethylene Di-Isocyanate are conditioned to less than Screen Modeling Action Levels.
- Panel filters are the only control equipment is being used to control particulate matter (PM₁₀)

- This review was conducted in accordance with Section (6) of Missouri State Rule 10 CSR 10-6.060, *Construction Permits Required*. Potential emissions of VOC are above de minimis levels and HAPs are conditioned to below de minimis levels
- This installation is located in Franklin County, 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 HAP emissions of the application are conditioned to below screening model action (SMALS) levels.
- Emissions testing is not required for the equipment.
- Because the PTE of the VOCs are greater than deminimis levels, a Basic Operating Permit is required for this installation.
- Approval of this permit is recommended with special conditions.

INSTALLATION DESCRIPTION

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

Permit Number	Project Number	Description
OP	2008-02-015	Basic operating permit
032008-003	2008-02-014	Permit-by-rule
082008-010	2008-04-098	Surface Coating Paint Booth

Midwest Metal Finishing originally was issued a permit by rul. Midwest Metal Finishing could not meet the 50' distance as required by permit by rule, therefore Midwest Metal Finishing submitted a new application for the paint booth and stack. This application is for a second paint booth with one spray gun. This site will have two paint booths when this project is completed. The emission limits in this permit apply to all equipment at the site.

PROJECT DESCRIPTION

Midwest Metal Finishing is adding a new paint booth with a stack to paint various sizes of long flat and contoured sheet metal parts. Midwest Metal Finishing uses high volume low pressure (HVLV) spray equipment in their operations. The majority of the parts painted are of the flat sheet metal design. They use low VOC primers and paints that have been formulated specifically for the aircraft industry. Only one spray gun is authorized for operation in the booth. The booth, because of loading and unloading, has a MHDR of less than the capacity of the spray gun. HVLV transfer efficiencies of 85 percent were used. Upon review of the information submitted with the spray gun (

Model JGA –HVLP) and discussion with the installation that most shapes will be flat. The transfer efficiency was increased from 0.65 to 0.85 percent.

EMISSIONS/CONTROLS EVALUATION

The emissions of concern from this project are VOCs and HAPs. Potential HAPs of concern includes xylene, ethyl benzene, toluene, Methyl Isobutyl Ketone (MIBK), Hexamethylene Di-Isocyanate, cumene, 2-nitropropane, and strontium chromate. The emission factors used in the VOCs and HAPs emissions analysis were developed from the MSDS submitted with the permit application and through the use of mass balance around the process.

Uncontrolled potential emission calculations assume that all of the xylene, ethyl benzene, toluene, Methyl Isobutyl Ketone (MIBK), Hexamethylene Di-Isocyanate, toluene, cumene, 2-nitropropane and strontium chromate in coating materials are emitted.

A material balance approach was used in the analysis of VOC and HAP emissions. For VOC and HAP-containing materials, the amount of pollutant emitted is assumed to be 100 percent of the amount of pollutant contained in the material, since no control device is used to remove or destroy the VOC or HAP in the stack, with the exception to strontium chromate (see below).

Percentage of VOC and HAP by weight and densities of the coatings were determined from Material Safety Data Sheets (MSDS) provided by the applicant. The only control devices that are used are the filters to control PM₁₀. Since the physical state of the strontium chromate is yellow powder, then it could be treated as PM₁₀ and could be controlled by the panel filters. :Paint transfer efficiency is 85% and filter control is 90 %.

Chromium content of strontium chromate is 25.54 % by weight, therefore in order to meet the screening model action level (SMAL) of 0.002 tons (4 lbs), the installation is not allowed to process more than 266.66 lbs per year of chromium (VI). The previous permit contained a calculation error in stating that 50 percent is controlled by paint fallout. Paint fall out is part of the paint transfer efficiency. The previous permit 082008-010 was authorizing 895 pounds of per year of strontium chromate this amount was superseded in this application. The installation wide limit is 266.66 pounds of per year of chromium in the chromium compound strontium chromate established in this permit. This amount is more than the SMAL limit because of the application of control to the HAP strontium chromate that is also a PM source.

Potential emissions of the application represent the potential of the new equipment, assuming continuous operation (8760 hours per year). The applicant voluntarily accepted an installation-wide HAP emission limit to remain a de minimis source and avoid conducting screen analysis. Therefore, 0.0002 tons Chromium Compounds (VI) and 0.02 tons Hexamethylene Di-Isocyanate per year individual HAPs limits for the entire installation were imposed. Table 1 below provides an emissions summary for this project. Based on complying with the chromium emission limit of 0.1333 tons per year(266.66 pounds per year).

The following table provides an emissions summary for this project.

Table 1: Emissions Summary (tons per year)

Pollutant	Regulatory De Minimis Levels	Existing Potential Emissions	*Existing Actual Emissions (EIQ 2006)	Potential Emissions of this Project	New Installation Conditioned Potential
PM ₁₀	15.0	N/A	N/A	0.59	N/A
SO _x	40.0	N/A	N/A	N/A	N/A
NO _x	40.0	N/A	N/A	N/A	N/A
VOC	40.0	N/A	N/A	52.19	N/A
CO	100.0	N/A	N/A	N/A	N/A
Combined HAPs	25.0	N/A	N/A	9.58	N/A
Xylene	10.0	N/A	N/A	0.92	N/A
Ethyl Benzene	10.0	N/A	N/A	0.036	N/A
Toluene	10.0	N/A	N/A	4.91	N/A
Hexamethylene Di-Isocyanate	10.0	N/A	N/A	0.055	<0.02
Methyl Isobutyl Ketone (MIBK)	10.0	N/A	N/A	2.06	N/A
Cumene	10.0	N/A	N/A	1.10	N/A
** Chromium Compounds	10.0	N/A	N/A	0.495	N/A
Chromium (VI) Compounds	0.002	N/A	N/A	0.13	<0.002***
2-nitropropane	10.0	N/A	N/A	0.015	N/A

N/A = Not Applicable

*Existing emissions are not presented because of the calculation error present in permit 082008/-010.

** Chromium compounds are not separate emissions; it is the chromium portion of strontium chromate.

*** Special Conditions indirectly limit the chromium (VI) compound emissions to this amount.

PERMIT RULE APPLICABILITY

This review was conducted in accordance with Section (6) of Missouri State Rule 10 CSR 10-6.060, *Construction Permits Required*. Potential emissions VOC are above de minimis source levels. The HAP emissions of Strontium Chromate (Chromium (VI) Compounds) and Hexamethylene Di-Isocyanate are limited to less than the SMAL levels.

APPLICABLE REQUIREMENTS

Midwest 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.

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
- *Control of Emissions From Industrial Surface Coating Operations*, 10 CSR 10-5.330

STAFF RECOMMENDATION

On the basis of this review conducted in accordance with Section (6), Missouri State Rule 10 CSR 10-6.060, *Construction Permits Required*, I recommend this permit be granted with special conditions.

Tim Hines
Environmental Engineer

Date

PERMIT DOCUMENTS

The following documents are incorporated by reference into this permit:

- The Application for Authority to Construct form, dated 04/20/2009, received 04/22/2009, designating Midwest Metal Finishing as the owner and operator of the installation.
- U.S. EPA document AP-42, *Compilation of Air Pollutant Emission Factors*, Fifth Edition.
- Saint Louis Regional Office Site Survey, dated 05/07/2009.

Mr. William Higgins
President
Midwest Metal Finishing
600 West Industrial Drive
Gerald, MO 63037

RE: New Source Review Permit - Project Number: 2009-04-059

Dear Higgins:

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 Tim Hines, 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:thl

Enclosures

c: Saint Louis Regional Office
PAMS File: 2009-04-059

Permit Number:

MISSOURI DEPARTMENT OF NATURAL RESOURCES
FOLDER TRANSMITTAL ROUTING SHEET

Document #:
Division Log #:
Program Log #:

DEADLINE: **Penalty for Missing Deadline: \$**

Midwest Metal Finishing 2009-04-059

Originator: Tim Hines Telephone: 6-3835 Date: 3/11/2011

Typist: Linda P:\APCP\Permits\Users\Timothy Paul Hines\New Source Review\
Midwest Metal Finishing\2009-04-059 Midwest Metal Finishing B tph.doc

FOR SIGNATURE APPROVAL OF:

DNR Director DNR Deputy Director Division Director Division Deputy Director X Other: James L. Kavanaugh

PROGRAM APPROVAL: Approved by: _____ Program: APCP Date: _____

Other Program Approval (Section/Unit): _____ Date: _____

Comments:

ROUTE TO:

DIVISION DIRECTOR APPROVAL: _____ Date: _____

Comments:

FINANCIAL REVIEW – DIVISION OF ADMINSTRATIVE SUPPORT:

DAS Director: _____ Date: _____

Fee Worksheet Received By: _____ Date: _____

Accounting: _____ Date: _____

Budget: _____ Date: _____

General Services: _____ Date: _____

Internal Audit: _____ Date: _____

Purchasing: _____ Date: _____

Comments:

LEGAL REVIEW:

General Counsel: _____ Date: _____

AGO: _____ Date: _____

Comments:

DEPARTMENT DIRECTOR APPROVAL: _____ Date: _____

Comments:

NOTARIZATION NEEDED

INITIALS/DATE