

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: 042010-003

Project Number: 2010-02-057

Parent Company: American Steel Fabrication Inc.

Parent Company Address: 1109 Mason Circle, Pevely, MO 63070

Installation Name: American Steel Fabrication Inc.

Installation Number: 099-0164

Installation Address: 1109 Mason Circle, Pevely, MO 63070

Location Information: Jefferson County, S7, T41N, R6E

Application for Authority to Construct was made for:

A structural steel fabrication and steel coating installation. 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.

APR 05 2010

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 within 30 days of actual startup. 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."

American Steel Fabrication Inc.
Jefferson County, S7, T41N, R6E

1. Emission Limitation
 - A. American Steel Fabrication Inc. shall emit less than 40.0 tons of Volatile Organic Compounds (VOCs) in any consecutive 12-month period from the entire installation as defined in Table 1.
 - B. Attachment A or equivalent forms, such as electronic forms, approved by the Air Pollution Control Program shall be used to demonstrate compliance with Special Condition 1.A.
 - C. American Steel Fabrication Inc. shall emit less than 15.0 tons of particulate matter less than ten (10) microns in diameter (PM₁₀) in any consecutive 12-month period from the entire installation as defined in Table 1.
 - D. Attachment B or equivalent forms, such as electronic forms, approved by the Air Pollution Control Program shall be used to demonstrate compliance with Special Conditions 1.C.
2. Use of Alternative Coating in the Installation
 - A. When considering using an alternative coating in the installation that is different than a material listed in the Application for Authority to Construct, American Steel Fabrication Inc. shall calculate the potential emission of all individual HAP in the alternative material.
 - B. American Steel Fabrication Inc. shall seek approval from the Air Pollution Control Program before use of the alternative material if the potential individual HAP emissions for the alternative material are equal to or greater than the Screening Model Action Level (SMAL) for any chemical listed in Attachment AA.

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SPECIAL CONDITIONS:

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

- C. Attachment C or equivalent forms, such as electronic forms, approved by the Air Pollution Control Program shall be used to show compliance with Special Condition 2.A.

- 3. Record Keeping and Reporting Requirements
 - A. American Steel Fabrication Inc. 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.

 - B. American Steel Fabrication Inc. shall report to the Air Pollution Control Program's Enforcement Section, P.O. Box 176, Jefferson City, Missouri 65102, no later than ten days after the end of the month during which any record required by this permit show an exceedance of a limitation imposed by this permit.

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

Project Number: 2010-02-057
Installation ID Number: 099-0164
Permit Number:

American Steel Fabrication Inc.
1109 Mason Circle
Pevely, MO 63070

Complete: February 19, 2010

Parent Company:
American Steel Fabrication Inc.
1109 Mason Circle
Pevely, MO 63070

Jefferson County, S7, T41N, R6E

REVIEW SUMMARY

- American Steel Fabrication Inc. has applied for authority to construct a structural steel fabrication and steel coating installation.
- Hazardous Air Pollutant (HAP) emissions are expected from the proposed equipment. HAPs of concern from this process are manganese (CAS No. 7439-96-5), ethyl benzene (CAS No. 100-41-4), and xylene (CAS No.1330-20-7).
- None of the New Source Performance Standards (NSPS) apply to the installation.
- None of the National Emission Standards for Hazardous Air Pollutants (NESHAPs) apply to this installation. None of the currently promulgated Maximum Achievable Control Technology (MACT) regulations apply to the proposed equipment.
- No air pollution control equipment is being used in association with the new equipment.
- 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 and VOC are conditioned below de minimis levels.
- This installation is located in Jefferson County, a nonattainment area for the 8-hour ozone standard and the PM-2.5 standard and an attainment area for all other criteria pollutants. The installation is not located in the Jefferson County lead nonattainment area.
- This installation is not on the List of Named Installations found in 10 CSR 10-6.020(3)(B), Table 2. The installation's major source level is 250 tons per year and fugitive emissions are not counted toward major source applicability.

- Ambient air quality modeling was not performed since potential emissions of the application are below de minimis levels.
- Emissions testing are not required for the equipment.
- No Operating Permit is required for this installation.
- Approval of this permit is recommended with special conditions.

INSTALLATION DESCRIPTION

American Steel Fabrication Inc. has operated a structural steel fabrication and surface coating facility at 1109 Mason Circle in Pevely, Missouri since 1996. Structural steel and rebar is processed to customer specifications by shearing, bending, grinding, welding, and surface coating. Most steel is not surface coated. No permits have been issued to American Steel Fabrication Inc. from the Air Pollution Control Program.

Table 1: Installation Defined

Emission Designation	Description	Maximum Hourly Design Rate
EU-01	MIG Welding	¹ 6.57
EU-02	Surface Spray Coating	² 28.20

¹ Pounds of wire per hour

² Gallons per hour

PROJECT DESCRIPTION

No equipment is being installed under this review. Chop saw and grinding PM₁₀ emissions, in negligible amounts, are expected from the use of wheels that typically contain aluminum oxide and silicon carbide. The gas metal arc welding (GMAW) or metal inert gas (MIG) welding process typically emits PM₁₀. HAPs may also be emitted, depending on the electrode wire. Welding maximum hourly design rate (MHDR) was calculated based upon the actual 2009 weight usage of wire, assumed feed rate of 400 inches per minute, and wire density. The MHDR of the surface spray coating was calculated based upon the flow-rate of the spray gun, mixing rate of the coating and reducer, and their respective gallon weights. All emissions are uncontrolled. Surface spray coating occurs outside.

EMISSIONS/CONTROLS EVALUATION

Total PM₁₀ emissions from the ER70S-6 welding wire were calculated using the emission factor for E70S wire, source classification code (SCC) 3-09-052-54, 5.2 pounds of PM₁₀ per 1,000 pounds of electrode consumed. Manganese emissions were calculated using the same SCC, with an emission factor of 0.318 pounds per 1,000 pounds of electrode consumed. Manganese is a HAP, and also particulate matter less than 10 microns in aerodynamic diameter (PM₁₀), but since a total PM₁₀ emission factor exists, only counting the manganese as a HAP is necessary. The emission factors for chromium, cobalt, and nickel were not used, as ER70S-6 does not contain these metals, according to the Material Safety Data Sheet (MSDS). Potential emissions from

selecting other welding wire have not been calculated.

Volatile organic compound (VOC) and HAP emissions from the surface spray coating were calculated using the conservative assumption that all available VOCs and HAPs are emitted. The reducer is one hundred percent VOC. The coating is primer, containing naphtha, mineral spirits, ethyl benzene, xylene, quartz, talc, and calcium carbonate. Ethyl benzene and xylene are HAPs and VOCs. Naphtha and mineral spirits used in this review are VOCs. Quartz, talc, and calcium carbonate are considered PM₁₀. PM₁₀ emissions are calculated assuming fifty percent transfer efficiency. No setup or drying bottleneck can be determined.

Table 2 provides an emissions summary for this project. Potential Emissions of the Installation represent the potential of the equipment, assuming continuous operation (8,760 hours per year). The New Installation Conditioned Potential represents voluntary limits to become a synthetic de minimis source for PM₁₀ and VOC.

Table 2: Emissions Summary (tons per year)

Pollutant	Regulatory De Minimis Levels	Existing Potential Emissions	Existing Actual Emissions (2009 EIQ)	Potential Emissions of the Installation	New Installation Conditioned Potential
PM ₁₀	15.0	N/D	N/D	133.01	< 15.0
SO _x	40.0	N/D	N/D	N/A	N/A
NO _x	40.0	N/D	N/D	N/A	N/A
VOC	40.0	N/D	N/D	570.87	< 40.0
CO	100.0	N/D	N/D	N/A	N/A
HAPs	10.0/25.0	N/D	N/D	10.41	N/A
Manganese	¹ 0.8	N/D	N/D	9.15E-03	N/A
Ethyl benzene	¹ 10.0	N/D	N/D	2.40	N/A
Xylene	¹ 10.0	N/D	N/D	8.00	N/A

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

¹ Screening Model Action Level (SMAL)

Control of Emissions From Industrial Surface Coating Operations, 10 CSR 10-5.330 applies if the actual VOC emissions ever exceed 2.5 tons per year. There is no record of actual VOC emissions as, previous to this determination, American Steel Fabrication Inc. has not been required to submit actual emission calculations.

National Emission Standards for Hazardous Air Pollutants: Paint Stripping and Miscellaneous Surface Coating Operations at Area Sources, 40 CFR Part 63, Subpart HHHHHH does not apply as target HAPs are not present in the currently used coatings. Emissions from the surface coating occur outside, where the part rack supports are embedded in concrete, and the parts themselves are long cages of structural rebar. In this case, it would not be reasonable for the applicant to enclose the painting process and route emissions through a stack, or re-locate the painting process inside the manufacturing building. Therefore emissions from surface coating are considered fugitive, and *Restriction of Emission of Particulate Matter From Industrial Processes*, 10 CSR 10-6.400 does not apply.

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 and VOC are conditioned below de minimis levels.

APPLICABLE REQUIREMENTS

American Steel Fabrication Inc. 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.
- *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

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.

David Little
Environmental Engineer

Date

PERMIT DOCUMENTS

The following documents are incorporated by reference into this permit:

- The Application for Authority to Construct form, dated February 19, 2010, received February 19, 2010, designating American Steel Fabrication 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 Site Inspection, dated December 10, 2009.

