

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: **052012-007**

Project Number: 2011-10-042
Installation Number: 163-0006

Parent Company: Louisiana Steel, Inc.

Parent Company Address: 211 Steel Street, Cottleville, MO 63376

Installation Name: Louisiana Steel, Inc.

Installation Address: 320 South 30th Street, Louisiana, MO 63353

Location Information: Pike County, S24, T54N, R2W

Application for Authority to Construct was made for:
Installation of an airless steel shot blasting system (EU-01) with opening size of four feet by four feet. 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.

MAY 10 2012

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 these air contaminant sources. 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 these air contaminant sources.

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 sources(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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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."

Louisiana Steel, Inc.
Pike County, S24, T54N, R2W

1. Control Device Requirement-Baghouse
 - A. Louisiana Steel, Inc. shall control emissions from the shot blaster (EU-1) using a baghouse as specified in the permit application.
 - B. The baghouses shall be operated and maintained in accordance with the manufacturer's specifications. The baghouse 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 Department of Natural Resources' employees may easily observe them.
 - C. Replacement filters for the baghouses shall be kept on hand at all times. The bags shall be made of fibers appropriate for operating conditions expected to occur (i.e. temperature limits, acidic and alkali resistance, and abrasion resistance).
 - D. Louisiana Steel, Inc. shall monitor and record the operating pressure drop across the baghouses at least once every 24 hours. The operating pressure drop shall be maintained within the design conditions specified by the manufacturer's performance warranty.
 - E. The baghouse waste must be disposed of in accordance with the local waste disposal authority. Records of collected material and bag disposal shall be kept on site and readily available for inspection. Elemental chromium and inorganic chromium compounds, manganese as an inorganic compounds and elemental manganese and soluble nickel compounds was identified as present in the steel shot as on the MSDS sheet.
 - F. Louisiana Steel, Inc. shall maintain an operating and maintenance log for the baghouses which shall include the following:
 - 1) Incidents of malfunction, with impact on emissions, duration of event, probable cause, and corrective actions; and
 - 2) Maintenance activities, with inspection schedule, repair actions, and replacements, etc.

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2. Record Keeping and Reporting Requirements

- A. Louisiana Steel, Inc. shall maintain all records required by this permit for not less than five 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. Louisiana Steel, Inc. shall report to the Air Pollution Control Program's Compliance/Enforcement Section, P.O. Box 176, Jefferson City, MO 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.

3. Shut Down of Existing Equipment at Installation

- A. Louisiana Steel, Inc. shall either render the existing abrasive blast unit as inoperable or verify in writing that this action has already taken place within 15 days of permit issuance. If the abrasive blast unit is not rendered inoperable, Louisiana Steel, Inc shall obtain a Basic Operating Permit or amend this permit in order to take an installation-wide limit on particulate matter less than 10 microns (PM₁₀) within 30 days of permit issuance.

- B. Louisiana Steel, Inc. shall verify to the Air Pollution Control Program's Enforcement Section, P.O. Box 176, Jefferson City, MO 65102, no later than 15 days after events stated in Special Condition 3.A have taken place.

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

Project Number: 2011-10-042
Installation ID Number: 163-0006
Permit Number:

Louisiana Steel, Inc.
320 South 30th Street
Louisiana, MO 63353

Complete: January 9, 2012

Parent Company:
Louisiana Steel, Inc.
211 Steel Street
Cottleville, MO 63376

Pike County, S24, T54N, R2W

REVIEW SUMMARY

- Louisiana Steel, Inc. has applied for authority to install a shot blasting system.
- Hazardous Air Pollutant (HAP) emissions are expected from the proposed equipment. HAPs of concern from this process are Chromium Compounds, Nickel Compounds and Manganese.
- 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.
- A dust collector is being used to control the particulate matter, particulate matter less than ten microns (PM_{10}) and less than 2.5 microns ($PM_{2.5}$) 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 emission of PM, PM_{10} and $PM_{2.5}$ are below de minimis levels when the baghouse control device is in use.
- This installation is located in Pike County, an attainment area for all criteria pollutants.
- 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 is not required for the equipment.
- No operating permit is required.
- Approval of this permit is recommended with special conditions.

INSTALLATION DESCRIPTION

Louisiana Steel is known as the steel manufacturer that provides custom solutions to tubing applications. Core products include custom sized round tubing, square/rectangular tubing, and special shaped tubing such as elliptical, flat-sided ovals, and other custom shapes and sizes from one piece up to several truckloads. Louisiana Steel is one of the few U.S. steel mills capable of producing metric steel tubing with a wide range of tooling.

The Louisiana Steel manufacturing facility is a custom tube mill that encompasses over 200,000 square feet under roof and 26 acres of outside storage. They are centrally located in Louisiana, Missouri. Their unique manufacturing process consists of three draw benches that allow for sizes and shapes not found at other tube mills. Louisiana Steel utilizes state of the art shot blasting equipment to clean the tubing products during the manufacturing process. Clean tubes are essential to the manufacturing process, allowing the tubing to pass smoothly through the rolls and dies. The shot blasting equipment is also used to remove scale and rust, providing a clean surface for all cosmetic applications. It is also used to prepare the tubing for coating by removing surface contaminants and providing a surface profile for increased coating adhesion. Louisiana Steel does not have an operating permit and has an installation wide less than 15.0 ton limit on PM₁₀ in any consecutive 12 month period in permit 0698-001.

The following permits have been issued to Louisiana Steel, Inc. from the Air Pollution Control Program.

Table 1: Permit History

Permit Number	Description
0698-001	6.5 cubic foot sandblaster

PROJECT DESCRIPTION

Louisiana steel is installing an LS Industries model LS4848 automated pass through airless steel shot blaster. This machine is designed to blast clean the surfaces of a continuous flow of steel shapes using steel shot as an abrasive media for cleaning. It has an opening 48 inches wide by 48 inches tall. This machine uses indirect drive impellers. The impellers are capable of throwing 450 pounds of abrasive per minute (13.5 tons per hour) according to company literature. This machine uses 5770 pounds

per hour of steel shot media (2.8 tons per hour) according to plant personnel.

An existing abrasive blast unit authorized in permit 0698-001 is authorized for use and has not been removed or made inoperative.

EMISSIONS/CONTROLS EVALUATION

The emission factors used in this analysis were obtained from the Environmental Protection Agency (EPA) document AP-42, *Compilation of Air Pollutant Emission Factors*, Fifth Edition, section 13.2.6 Abrasive Blasting, dated 9/97.

Source Classification Code (SCC) emission factors for SCC 3-09-002-02 and SCC 3-09-002-04 uncontrolled PM₁₀ and PM_{2.5} and controlled PM, were used. These emission factors use garnet blast media that contains no HAPs. The Material Safety Data Sheet (MSDS) provided with the application listed the HAPs manganese, chromium compounds, and nickel compounds as a weight percent present in the steel shot. Assuming all HAPs present in the steel shot was emitted, the weight percent multiplied by the consumption rate of steel shot would estimate the amount of manganese, chromium compounds and nickel compounds that could be released. These HAPs are all considered particulate matter and the efficiency of the baghouse control device was used to determine the amounts released. A controlled value of 100 percent capture was assumed with the enclosed cabinet, dust collectors, and durable steel shot. Control efficiency for PM, PM₁₀ and PM_{2.5} was assumed to be 98 percent after reviewing literature from the equipment supplier's web site.

Manganese is listed both as an inorganic compound and as elemental manganese on the MSDS sheet, but the MSDS does not identify the compound. Elemental manganese was chosen as the substance being emitted. The weight percent of manganese in the steel shot was determined from the weight percent on the MSDS; The amount of emissions was found to be less than the Screen Modeling Action Limit (SMAL). Elemental nickel metal and soluble nickel compounds were identified as present in the steel shot on the MSDS sheet. Nickel metal is not a HAP. Therefore, the nickel compounds category was used to characterize the weight percent emitted. The SMAL of nickel compounds was not exceeded. The MSDS sheet listed elemental chromium and inorganic chromium compounds as present. The SMAL was not exceeded.

The need for a permit is based on the uncontrolled emissions of PM₁₀ exceeding the Insignificant Emission Exemption Level of 1.0 pound per hour. The PM₁₀ and PM_{2.5} emitted amounts are based on the emission factor assigned to SCC 3-09-002-02. PM is based on SCC 3-09-002-04. The following table provides an emissions summary for this project. Potential emissions of the application represent the potential of the new equipment, assuming continuous operation (8760 hours per year.)

Table 2: Emissions Summary (tons per year)

Pollutant	Regulatory <i>De Minimis</i> Levels	Existing Potential Emissions ²	Existing Actual Emissions (2010 EIQ)	Potential Emissions of the Application (tons/year)	New Installation Conditioned Potential (tons/year)
PM	25.0	N/D	N/D	17.43	N/A
PM ₁₀	15.0	15.0	0.01	6.57	N/A
PM _{2.5}	10.0	N/D	N/D	0.66	N/A
SOx	40.0	0.02	N/D	N/A	N/A
NOx	40.0	3.07	0.75	N/A	N/A
VOC	40.0	0.18	0.04	N/A	N/A
CO	100.0	0.64	0.15	N/A	N/A
HAPs	10.0/25.0	N/A	N/D	0.32	N/A
Manganese Compounds	¹ 0.8	N/D	N/D	0.23	N/A
Nickel Compounds	¹ 1.0	N/D	N/D	0.04	N/A
Chromium Compounds	¹ 5.0	N/D	N/D	0.04	N/A
Chromium VI Compounds	¹ 0.002	N/D	N/D	1.99X10 ⁻⁷	N/A

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

1. Screen Modeling Action Values

2. Existing emissions were taken from permit 0698-001. PM₁₀ emissions were conditioned to less than 15 tons per year.

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 emission of PM, PM₁₀ and PM_{2.5} are below de minimis levels when the baghouse control device is in use.

APPLICABLE REQUIREMENTS

Louisiana Steel, 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
- *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 10-6.165

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.

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 October 17, 2011, received October 21, 2011, designating Louisiana Steel, Inc. as the owner and operator of the installation.
- U.S. EPA document AP-42, *Compilation of Air Pollutant Emission Factors*, Fifth Edition.

Mr. Darren Weber
Plant Manager
Louisiana Steel, Inc.
320 South 30th Street
Louisiana, MO 63353

RE: New Source Review Permit - Project Number: 2011-10-042

Dear Mr. Weber:

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 Department of Natural Resource's Air Pollution Control Program, P.O. Box 176, Jefferson City, MO 65102, or by telephone at (573) 751-4817. Thank you for your attention to this matter.

Sincerely,

AIR POLLUTION CONTROL PROGRAM

Susan Heckenkamp
New Source Review Unit Chief

SH:thk

Enclosures

c: Northeast Regional Office
PAMS File: 2011-10-042