

STATE OF MISSOURI



DEPARTMENT OF NATURAL RESOURCES

MISSOURI AIR CONSERVATION COMMISSION

PERMIT TO CONSTRUCT

PERMIT BOOK

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: **042015-007** Project Number: 2013-11-024
Installation Number: 510-1169

Parent Company: Grossman Iron and Steel Company
Parent Company Address: 5 North Market Street, St. Louis, MO 63102
Installation Name: Grossman Iron and Steel Company
Installation Address: 5 North Market Street, St. Louis, MO 63102
Location Information: City of St. Louis, MO

Application for Authority to Construct was made for:

The permitting of an existing mega shredder and associated handling/separation equipment. 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.

APR 29 2015

EFFECTIVE DATE

Handwritten signature of Kya L. Noon in black ink.

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 startup 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 startup 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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Project No.	2013-11-024

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."

Grossman Iron and Steel Company
City of St. Louis

1. PM₁₀ Emission Limitation
 - A. Grossman Iron and Steel Company shall emit less than 15.0 tons of PM₁₀ in any consecutive 12-month period from the mega shredder and associated handling/separation equipment. A list of all equipment subject to this limit is given below in Table 1.

Table 1: Equipment Subject to PM₁₀ Emissions Limit

Emission Point	Description
9a	Load-In to Shredding Unit
9b	Shredding Unit
10	Drop to Conveyor
11	Transfer Conveyor
12	Separation Unit
13	Conveyor
14	Conveyor
15	Conveyor
16	Sorting Conveyor
17	Sorting Table Chute
18	Conveyor
19	Front End Loader Drop
20	Conveyor
21	Conveyor
22	Conveyor
23	Conveyor
24	Magnetic Separator
25/26/27	Trommel Screen
28	Conveyor
29	Conveyor
30/42/54	Drop from Eddy Current Unit
31/43/55	Drop to Storage Pile or Unit

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SPECIAL CONDITIONS:

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

32/44/56	Drop from Eddy Current Unit
33/45/57	Drop to Storage Pile or Unit
34/46/58	Drop from Eddy Current Unit
35/47/59	Drop to Storage Pile or Unit
36/48/60	Drop from Eddy Current Unit
37/49/61	Drop to Storage Pile or Unit
38/50/62	Drop from Sorter
39/51/63	Drop to Pile
40/52/64	Drop from Sorter
41/53/65	Drop to Piles
HR	Haul Roads

- 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.
2. Haul Road Control Requirements
- A. Grossman Iron and Steel shall control fugitive emissions from the haul roads used by the mega shredder and its associated handling/separation equipment by documented watering, paving the roads or maintaining already paved roads.
 - B. The following conditions apply to haul road watering
 - 1) The water application rate shall be 100 gallons per 1000 square feet at least once per day.
 - 2) A quarter inch or more rainfall during the preceding 24 hours shall substitute for one daily water application.
 - 3) Water/Surfactant application shall not be required when the ground is frozen or when there will be no traffic on the roads.
 - 4) Grossman Iron and Steel shall keep the following records on file and available for inspection.
 - a) A daily log initialed by the responsible facility operator of roads watered and quantity of water used or notation that there was a quarter inch or greater rainfall within the past 24 hours or that the facility was not in operation.
 - b) Water tank size, total area of roads to be watered, and the resultant number of fills necessary to accomplish the required application rate.
 - c) Record of watering equipment breakdowns and repairs.

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SPECIAL CONDITIONS:

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

- C. The following conditions apply if the facility paves a road after the issuance of this permit.
 - 1) Grossman Iron and Steel shall pave the area with material such as asphalt, concrete or other material approved by the Air Pollution Control Program. The pavement shall be applied in accordance with industry standards to achieve control of fugitive emissions while the plant is operating.
 - 2) Maintenance and repair of the road surface shall be conducted as necessary to ensure that the physical integrity of the pavement is adequate to achieve control of fugitive emissions from these areas while the plant is operating.
 - 3) The operator shall periodically wash or otherwise clean all of the paved portions of the haul roads as necessary to achieve control of fugitive emissions from these areas while the plant is operating.

- D. The following conditions apply for roads at the facility that are already paved.
 - 1) Grossman Iron and Steel shall maintain and repair the road surface as necessary to ensure that the physical integrity of the pavement is adequate to achieve control of fugitive emissions from the roads while the plant is operating.
 - 2) The operator shall periodically wash or otherwise clean all of the paved portions of the haul roads as necessary to achieve control of fugitive emissions from these areas while the plant is operating.

- 3. Record Keeping and Reporting Requirements
 - A. Grossman Iron and Steel shall maintain all records required by this permit for not less than five years and shall make them available to any Missouri Department of Natural Resources' personnel upon request. These records shall include MSDS for all materials used.

 - B. Grossman Iron and Steel shall report to the Air Pollution Control Program's Compliance/Enforcement Section, P.O. Box 176, Jefferson City, MO 65102, no later than 10 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 (6) REVIEW

Project Number: 2013-11-024
Installation ID Number: 510-1169
Permit Number:

Grossman Iron and Steel Company
5 North Market Street
St. Louis, MO 63102

Complete: November 4, 2013

Parent Company:
Grossman Iron and Steel Company
5 North Market Street
St. Louis, MO 63102

REVIEW SUMMARY

- Grossman Iron and Steel Company has applied for authority to permit an existing mega shredder and associated handling/separation equipment. The St. Louis Department of Health issued a source registration permit (SR04.070) for the equipment but source registration permits are not state construction permits and are not federally enforceable. Therefore, a new construction permit needs to be issued by the Missouri Air Pollution Control Program.
- HAP emissions are not expected from the proposed equipment.
- None of the NSPS apply to this installation.
- None of the NESHAPs apply to this installation. None of the currently promulgated MACT regulations apply to the proposed equipment.
- No air pollution control devices are being used in association with the equipment. However, documented watering is being used to control particulate emissions on the unpaved portion of the haul roads.
- This review was conducted in accordance with Section (6) of Missouri State Rule 10 CSR 10-6.060, *Construction Permits Required*. Potential emissions of PM are greater than de minimis levels but below the major source level.
- This installation is located in the City of St. Louis, a nonattainment area for the 8-hour ozone standard and the PM_{2.5} standard and an attainment area for all other criteria pollutants.
- This installation is not on the List of Named Installations found in 10 CSR 10-6.020(3)(B), Table 2. Due to its nonattainment status, the major source level for PM_{2.5}, VOC and NO_x is 100 tpy. The installation's major source level is 250 tons per year for other regulated NSR pollutants. Fugitive emissions are not counted toward major source applicability.

- Ambient air quality modeling was not performed since the conditioned potential emissions of PM_{2.5} and PM₁₀ from the project are below de minimis levels. PM emissions are greater than the de minimis level for the project, but currently, there are no modeling standards for PM.
- Emissions testing is not required for the equipment.
- A Basic Operating Permit application is required for this installation within 30 days of permit issuance.
- Approval of this permit is recommended with special conditions.

INSTALLATION/PROJECT DESCRIPTION

Grossman Iron and Steel owns and operates a scrap metal recycling facility in St. Louis. The scrap metal is delivered to the site and processed with a shear, a bailer, a screen or a mega shredder. The shear, the bailer, a screen, an evaporator, and associated handling equipment were issued a City of St. Louis Source Registration Permit No. SR00.045 in 2000. An amended source registration permit (No. SR00.045A) was issued to the facility in 2006 for the same equipment. The bailer and evaporator have since been dismantled. The mega shredder and associated handling equipment were issued a City of St. Louis Source Registration No. SR04.070 in 2004. However, source registration permits from the City of St. Louis are not state permits and therefore, are not federally enforceable.

When SR00.045 was issued, emissions of all regulated pollutants at the site were estimated to be less than their respective de minimis levels. Furthermore, SR00.045A was added into the Missouri State Implementation Plan (SIP) in 2006, making it federally enforceable. Therefore, the facility would not have been required to obtain a permit from the Missouri Air Pollution Control Program. However, emissions from the mega shredder are estimated to be greater than the de minimis levels and SR04.070 has not been included as part of the SIP. Therefore, a construction permit is needed for the mega shredder and associated handling equipment. The facility would also now be required to apply for a Basic Operating Permit.

In the permit application, Grossman Iron and Steel lists 264.55 tph as the MHDR of the mega shredder. However, in the company's webpage marketing material, it is suggested that the shredder can process up to 300 tph of scrap. To be conservative in this permit, emissions from the shredder were calculated using 300 tph as the MHDR. No control device is being used for the shredder and associated equipment. The only combustion equipment being used at the installation is the diesel engine for the screen.

There is currently an air monitor on Branch Street, not far from this installation. The issuance of this permit does not absolve the installation of its responsibilities in helping to maintain the ambient air quality under the NAAQS. If, in the future, the monitor shows an exceedance of the NAAQS, the Air Pollution Control Program may require additional actions by Grossman Iron and Steel.

EMISSIONS/CONTROLS EVALUATION

PM_{2.5}, PM₁₀ and PM are the expected pollutants from the mega shredder and associated handling/separation equipment. The emission factors and control efficiencies used in this analysis were obtained from the EPA document AP-42, *Compilation of Air Pollutant Emission Factors*, Fifth Edition. AP-42 does not contain emission factors for metal shredding and handling. However, The Institute of Scrap Recycling Industries (ISRI) published the paper “Title V Applicability Workbook,” which suggested the use of emission factors for crushed stone processing in AP-42, Chapter 11.19.2, to estimate emissions from scrap metal processing plants. The emission factors should be conservative because the emissions from scrap metal processing are likely to be less than the emissions from crushed stone processing.

The following table provides an emissions summary for this project. Existing potential emissions were calculated during the review for this project and include emissions from the shear, bailer, screen, associated handling and combustion equipment, and haul roads. Existing actual emissions are not determined because the installation was not required to submit EIQs. After the issuance of this permit, Grossman Iron and Steel Company will be required to submit EIQs. Potential emissions of the application represent the potential of the mega shredder, associated handling/separation equipment, and haul roads, assuming continuous operation (8,760 hours per year). New installation conditioned potential reflects a project-wide emissions limit of 15.0 tpy of PM₁₀ to avoid modeling requirements. With the PM₁₀ emissions limit, PM_{2.5} emissions would be conditioned to less than its de minimis level. PM emissions remains above the de minimis level, but PM does not have modeling requirements.

Table 2: Emissions Summary (tons per year)

Pollutant	Regulatory <i>De Minimis</i> Levels	Existing Potential Emissions	Existing Actual Emissions (EIQ)	Potential Emissions of the Application	New Project Conditioned Potential
PM	25.0	13.36	N/D	142.44	79.16
PM ₁₀	15.0	4.68	N/D	26.99	<15.0
PM _{2.5}	10.0	1.77	N/D	12.00	6.67
SO _x	40.0	0.43	N/D	N/A	N/A
NO _x	40.0	6.52	N/D	N/A	N/A
VOC	40.0	0.53	N/D	N/A	N/A
CO	100.0	1.40	N/D	N/A	N/A
CO ₂	N/A	242	N/D	N/A	N/A
CH ₄	N/A	0.0098	N/D	N/A	N/A
N ₂ O	N/A	0.0020	N/D	N/A	N/A
GHG (CO ₂ e)	75,000 / 100,000	242	N/D	N/A	N/A
GHG (mass)	0.0 / 100.0 / 250.0	243	N/D	N/A	N/A
HAPs	10.0/25.0	1.36	N/D	N/A	N/A

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

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 of PM are above the de minimis level but below the major source level. Potential emissions of all other pollutants are conditioned below the de minimis level.

APPLICABLE REQUIREMENTS

Grossman Iron and Steel 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
- *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 10-6.165

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.

Chia-Wei Young
New Source Review Unit

Date

PERMIT DOCUMENTS

The following documents are incorporated by reference into this permit:

- The Application for Authority to Construct form, dated October 30, 2013, received November 4, 2013, designating Grossman Iron and Steel Company as the owner and operator of the installation.

Other reference documents used in this permit:

- U.S. EPA document AP-42, *Compilation of Air Pollutant Emission Factors*, Fifth Edition.
- "Title V Applicability Workbook," The Institute of Scrap Recycling Industries (ISRI), 1996

Attachment A – PM₁₀ Compliance Worksheet

Grossman Iron and Steel Company
 City of St. Louis
 Project Number: 2013-11-024
 Installation ID Number: 510-1169
 Permit Number: _____

This sheet covers the period for the month of _____.
 (month, year)

Emission Point	Description	Throughput (Units)	Emission Factors	² Emissions (tpy)
9a	Drop for Shredding Unit	Tons	0.0011 lb/ton	
9b	Mega Shredder	Tons	0.00257 lb/ton	
10	Drop to Separation Unit	Tons	0.0011 lb/ton	
11	Transfer Conveyor	Tons	0.0011 lb/ton	
12	Separation Unit	Tons	0.0011 lb/ton	
13	Conveyor	Tons	0.0011 lb/ton	
14	Conveyor	Tons	0.0011 lb/ton	
15	Conveyor	Tons	0.0011 lb/ton	
16	Sorting Table Drop	Tons	0.0011 lb/ton	
17	Sorting Table Chute	Tons	0.0011 lb/ton	
18	Conveyor	Tons	0.0011 lb/ton	
19	Front-End Loader Drop	Tons	0.0011 lb/ton	
20	Conveyor	Tons	0.0011 lb/ton	
21	Conveyor	Tons	0.0011 lb/ton	
22	Conveyor	Tons	0.0011 lb/ton	
23	Conveyor Drop to Pile	Tons	0.0011 lb/ton	
24	Magnet Separator	Tons	0.0011 lb/ton	
25/26/27	Trommel Screen	Tons	0.0087 lb/ton	
28	Conveyor	Tons	0.0011 lb/ton	
29	Conveyor	Tons	0.0011 lb/ton	
30/42/54	Drop from Eddy Current Unit	Tons	0.0011 lb/ton	
31/43/55	Drop to Storage Pile or Unit	Tons	0.0011 lb/ton	
32/44/56	Drop from Eddy Current Unit	Tons	0.0011 lb/ton	
33/45/57	Drop to Storage Pile or Unit	Tons	0.0011 lb/ton	
34/46/58	Drop from Eddy Current Unit	Tons	0.0011 lb/ton	
35/47/59	Drop to Storage Pile or Unit	Tons	0.0011 lb/ton	
36/48/60	Drop from Eddy Current Unit	Tons	0.0011 lb/ton	
37/49/61	Drop to Storage Pile or Unit	Tons	0.0011 lb/ton	
38/50/62	Drop from Sorter	Tons	0.0011 lb/ton	
39/51/63	Drop to Piles	Tons	0.0011 lb/ton	
40/52/64	Drop from Sorter	Tons	0.0011 lb/ton	
41/53/65	Drop to Piles	Tons	0.0011 lb/ton	
HR1	Unpaved Road	VMT	¹ 0.2213 lb/VMT	
HR2	Paved Road	VMT	0.4919 lb/VMT	
³ Total Monthly PM ₁₀ Emissions (tons) =				
⁴ Total PM ₁₀ Emissions from the Previous 11 Months (tons) =				
⁵ Total 12-month PM ₁₀ Emissions (tons) =				

Note 1: Emission Factor (lb/VMT) for unpaved roads includes a 90% control efficiency for documented watering.
 Note 2: Emissions (tpy) calculated by multiplying the Monthly Throughput (tons or VMT) by the Emission Factors (lb/ton or lb/VMT) and dividing by 2,000 lb/ton.
 Note 3: Total Monthly PM₁₀ Emissions (tons) calculated by summing the emissions in the column.
 Note 4: Total PM₁₀ Emissions from the Previous 11 Months (tons) calculated by summing the Total Monthly PM₁₀ Emissions (tons) in the Attachment A for the previous 11 months.
 Note 5: Total 12-month PM₁₀ Emissions (tons) calculated by adding the Total Monthly PM₁₀ Emissions (tons) and the Total PM₁₀ Emissions from the Previous 11 Months (tons). A total less than **15.0 tpy** indicates compliance.

APPENDIX A

Abbreviations and Acronyms

%	percent	m/s	meters per second
°F	degrees Fahrenheit	Mgal	1,000 gallons
acfm	actual cubic feet per minute	MW	megawatt
BACT	Best Available Control Technology	MHDR	maximum hourly design rate
BMPs	Best Management Practices	MMBtu	Million British thermal units
Btu	British thermal unit	MMCF	million cubic feet
CAM	Compliance Assurance Monitoring	MSDS	Material Safety Data Sheet
CAS	Chemical Abstracts Service	NAAQS ...	National Ambient Air Quality Standards
CEMS	Continuous Emission Monitor System	NESHAPs	
CFR	Code of Federal Regulations	National Emissions Standards for Hazardous Air Pollutants
CO	carbon monoxide	NO_x	nitrogen oxides
CO₂	carbon dioxide	NSPS	New Source Performance Standards
CO_{2e}	carbon dioxide equivalent	NSR	New Source Review
COMS	Continuous Opacity Monitoring System	PM	particulate matter
CSR	Code of State Regulations	PM_{2.5}	particulate matter less than 2.5 microns in aerodynamic diameter
dscf	dry standard cubic feet	PM₁₀	particulate matter less than 10 microns in aerodynamic diameter
EQ	Emission Inventory Questionnaire	ppm	parts per million
EP	Emission Point	PSD	Prevention of Significant Deterioration
EPA	Environmental Protection Agency	PTE	potential to emit
EU	Emission Unit	RACT	Reasonable Available Control Technology
fps	feet per second	RAL	Risk Assessment Level
ft	feet	SCC	Source Classification Code
GACT	Generally Available Control Technology	scfm	standard cubic feet per minute
GHG	Greenhouse Gas	SIC	Standard Industrial Classification
gpm	gallons per minute	SIP	State Implementation Plan
gr	grains	SMAL	Screening Model Action Levels
GWP	Global Warming Potential	SO_x	sulfur oxides
HAP	Hazardous Air Pollutant	SO₂	sulfur dioxide
hr	hour	tph	tons per hour
hp	horsepower	tpy	tons per year
lb	pound	VMT	vehicle miles traveled
lbs/hr	pounds per hour	VOC	Volatile Organic Compound
MACT	Maximum Achievable Control Technology		
µg/m³	micrograms per cubic meter		

Mr. Cap Grossman
President
Grossman Iron and Steel Company
5 North Market Street
St. Louis, MO 63102

RE: New Source Review Permit - Project Number: 2013-11-024

Dear Mr. Grossman:

Enclosed with this letter is your permit to construct. Please study it carefully and refer to Appendix A for a list of common abbreviations and acronyms used in the permit. 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 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 Chia-Wei Young, at the Department of Natural Resources' 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

Susan Heckenkamp
New Source Review Unit Chief

SH:cyl

Enclosures

c: St. Louis Regional Office
PAMS File: 2013-11-024

Permit Number: