

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: **06 2019 - 005**

Project Number: 2019-02-040
Installation Number: 097-0181

Parent Company: Digger Specialties, Inc.

Parent Company Address: 3446 US 6 East, Bremen, IN 46506

Installation Name: Digger Specialties, Inc.

Installation Address: 1825 Industrial Avenue, Carthage, MO 64836

Location Information: Jasper County (S09, T28N, R31W)

Application for Authority to Construct was made for:

The installation of an aluminum fence manufacturing facility. 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.



Director or Designee
Department of Natural Resources

JUN 12 2019

Effective Date

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 Enforcement and Compliance Section of 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 Enforcement and Compliance Section of the Department's Air Pollution Control Program of the anticipated date of startup 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's regional office responsible for the area within which you are located within 15 days after the actual startup of this (these) air contaminant source(s).

A copy of the permit application and this permit and permit review shall be kept at the installation address and shall be made available to Department's 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 using the contact information below.

Contact Information:

Missouri Department of Natural Resources
Air Pollution Control Program
P.O. Box 176
Jefferson City, MO 65102-0176
(573) 751-4817

The regional office information can be found at the following website:
<http://dnr.mo.gov/regions/>

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 to 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 (3)(E). "Conditions required by permitting authority."

Digger Specialties, Inc.
Jasper County (S09, T28N, R31W)

1. Capture Device Requirement – Powder Coating Booths
 - A. Digger Specialties, Inc. shall capture emissions from powder coating operations (SB-1 & SB-2) using enclosed powder coating booths, as specified in the permit application.
 - B. All doorways and windows into the booths shall be closed during powder coating operations.
 - C. All fresh air vents shall be equipped with visual indicators, such as streamers, that show air flow into the booths. The air flow direction shall be monitored and recorded at least once daily during operation.
 - D. Digger Specialties, Inc. shall maintain an operating and maintenance log for the booths, which shall include the following:
 - 1) Incidents of malfunction with impact on emissions (tons), date and duration of event, probable cause, and corrective actions
 - 2) Maintenance activities with inspection schedule, repair actions, replacements, etc.
2. Control Device Requirement – Powder Recovery Cyclone
 - A. Digger Specialties, Inc. shall control emissions from powder coating operations (SB-1) using a powder recovery cyclone (CY-1), as specified in the permit application.
 - B. The cyclone shall be operated and maintained in accordance with the manufacturer's specifications.
 - C. The cyclone shall be equipped with a gauge or meter, which indicates the pressure drop across the control device. Digger Specialties, Inc. shall monitor and record the operating pressure drop at least once every 24 hours while the equipment is in operation. The operating pressure drop shall be maintained within the design conditions specified by the manufacturer's performance warranty.
 - D. Digger Specialties, Inc. shall maintain a copy of the cyclone manufacturer's performance warranty onsite.

SPECIAL CONDITIONS:

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

- E. Digger Specialties, Inc. shall maintain an operating and maintenance log for the cyclone, which shall include the following:
 - 1) Incidents of malfunction with impact on emissions (tons), date and duration of event, probable cause, and corrective actions
 - 2) Maintenance activities with inspection schedule, repair actions, replacements, etc.

- 3. Control Device Requirement – Cartridge Collectors
 - A. Digger Specialties, Inc. shall control emissions from powder coating operations (SB-1 & SB-2) using cartridge collectors (CC-1 & CC-2), as specified in the permit application.

 - B. The cartridge collectors shall be operated and maintained in accordance with the manufacturer's specifications.

 - C. The cartridge collectors shall be equipped with a gauge or meter, which indicates the pressure drop across the control device. Digger Specialties, Inc. shall monitor and record the operating pressure drop at least once every 24 hours while the equipment is in operation. The operating pressure drop shall be maintained within the design conditions specified by the manufacturer's performance warranty.

 - D. Digger Specialties, Inc. shall maintain a copy of the cartridge collector manufacturer's performance warranty on site.

 - E. Replacement cartridges shall be kept on hand at all times. The cartridges shall be made of fibers appropriate for operating conditions expected to occur (i.e. temperature limits, acidic and alkali resistance, and abrasion resistance).

 - F. Digger Specialties, Inc. shall maintain an operating and maintenance log for the cartridge collectors, which shall include the following:
 - 1) Incidents of malfunction with impact on emissions (tons), date and duration of event, probable cause, and corrective actions
 - 2) Maintenance activities with inspection schedule, repair actions, replacements, etc.

- 4. Record Keeping Requirements
 - Digger Specialties, Inc. 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 SDS for all materials used.

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

Project Number: 2019-02-040
Installation ID Number: 097-0181
Permit Number:

06 2019 - 005

Installation Address:

Digger Specialties, Inc.
1825 Industrial Avenue
Carthage, MO 64836
Jasper County (S09, T28N, R31W)

Parent Company:

Digger Specialties, Inc.
3446 US 6 East
Bremen, IN 46506

REVIEW SUMMARY

- Digger Specialties, Inc. has applied for authority to install an aluminum fence manufacturing facility.
- The application was deemed complete on March 4, 2019.
- HAP emissions are expected from the proposed equipment. HAPs of concern from this project include the products of natural gas combustion and welding.
- None of the NSPS or NESHAPs apply to the installation. None of the currently promulgated MACT regulations apply to the proposed equipment.
- A powder recovery cyclone (CY-1) and cartridge collectors (CC-1 & CC-2) are being used to control particulate emissions from powder coating operations (SB-1 & SB-2).
- This review was conducted in accordance with Section (5) of Missouri State Rule 10 CSR 10-6.060, *Construction Permits Required*. Potential emissions of all pollutants are below de minimis levels.
- This installation is located in Jasper County, an attainment/unclassifiable 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.
- Emissions testing is not required for the equipment as a part of this permit. Testing may be required as part of other state, federal, or applicable rules.
- No Operating Permit is required for this installation.
- Approval of this permit is recommended with special conditions.

INSTALLATION/PROJECT DESCRIPTION

Digger Specialties, Inc. is proposing to install a new aluminum fence manufacturing facility in Carthage, Missouri. Operations will consist of a wash line, powder coating, and welding. The wash line will be a five stage system that uses water to clean aluminum parts prior to powder coating. A 2.00 MMBtu/hr natural gas burner will heat the water in the first stage, and a 2.35 MMBtu/hr dry-off oven will dry the parts after washing. Powder coating will be done in two booths. The main booth will have 18 automatic spray guns and two manual spray guns, which will collectively coat the majority of the aluminum parts. The other booth will have only two manual spray guns, which will process larger aluminum parts that won't fit in the main booth. A 3.22 MMBtu/hr cure oven will cure the coating after it has been applied. Twelve other natural gas fired units will be used onsite to heat the building. Table 1 provides a complete list of equipment being installed.

Table 1. Project Equipment

Emission Point	Description	Maximum Design Rate
SB-1	Main powder coating spray booth (18+2 guns)	250 lb/hr
SB-2	Manual powder coating spray booth (2 guns)	26 lb/hr
W-1	Wash line (1 natural gas burner)	2.00 MMBtu/hr
FSB-1	Fluidized sand bed for equipment cleaning (1 natural gas burner)	0.56 MMBtu/hr
DO-1	Dry-off oven (1 natural gas burner)	2.35 MMBtu/hr
CO-1	Cure oven (1 natural gas burner)	3.22 MMBtu/hr
MW	Miscellaneous welding equipment (electrode consumption)	4.43 lb/hr
MBH	Miscellaneous building heaters (12 natural gas burners)	1.90 MMBtu/hr

The main powder coating booth (SB-1) will be controlled by a cyclone (CY-1) that allows Digger Specialties, Inc. to recover and reuse powder that has not adhered to the aluminum parts during the coating process. The reclaim system will work for all color powders used and will reduce the amount of total powder lost due to initial overspray. Both the main and manual powder coating booths (SB-1 & SB-2) will be controlled by cartridge collectors (CC-1 & CC-2) that prevent overspray from being emitted to the atmosphere. After the cartridge collectors, the exhaust stream will pass through a final filtration unit which exhausts inside the building.

EMISSIONS/CONTROLS EVALUATION

Particulate emissions from powder coating were calculated using mass balances. The maximum design rate represents the maximum amount of powder that can be fed to the spray guns during operation. It was conservatively assumed that all emitted particulate matter is PM_{2.5}. The spray guns have an overall transfer efficiency rating of 80% for this application type, as specified by the manufacturer. [75-80% transfer efficiency is considered standard for powder coating using HVLP spray guns, as described in chapter 5 of the EPA training document *Sources and Control of Volatile Organic Air Pollutants* (November 2002)]. Overspray from SB-1 is controlled by a powder recovery cyclone, which has a minimum recovery efficiency of 90% for particulates. This is a

conservative estimate based on a recovery efficiency of 98% which was calculated from similar equipment at a sister plant in Indiana. The recovered powder is then returned to the drum/hopper feeder for reuse. The remaining overspray from SB-1 not captured by the cyclone, as well as all overspray from SB-2, is controlled by cartridge collectors, which have an overall control efficiency of 95%. No control efficiency was associated with final filtration and it was not made practically enforceable since the control device will only be used to condition the air before being returned inside the building. The coatings contain negligible amounts of volatile components (<0.1%) and no HAPs; therefore, VOC and HAP emissions from powder coating were not evaluated for this project.

Potential emissions from all natural gas fired units were calculated using emission factors taken from AP-42 Section 1.4 *Natural Gas Combustion* (July 1998).

Emissions from welding operations were calculated using emission factors taken from AP-42 Section 12.19 *Electric Arc Welding* (January 1995). The maximum design rate for welding was taken to be the total amount of electrode consumed when the welders are continuously operating.

Haul road emissions were not evaluated as part of this project because the installation is located adjacent to a public road.

Table 2 provides an emissions summary for this project. Because this is a new installation, existing potential emissions and existing actual emissions do not exist. Potential emissions of the project represent the potential of the new equipment, assuming continuous operation (8,760 hours per year).

Table 2: Emissions Summary (tons per year)

Pollutant	Regulatory <i>De Minimis</i> Levels	Existing Potential Emissions	Existing Actual Emissions	Potential Emissions of the Project	Potential Emissions of the Installation
PM	25.0	N/A	N/A	4.50	4.50
PM ₁₀	15.0	N/A	N/A	4.50	4.50
PM _{2.5}	10.0	N/A	N/A	4.50	4.50
SO _x	40.0	N/A	N/A	0.03	0.03
NO _x	40.0	N/A	N/A	4.31	4.31
VOC	40.0	N/A	N/A	0.24	0.24
CO	100.0	N/A	N/A	3.62	3.62
Total HAPs	25.0	N/A	N/A	0.13	0.13

N/A = Not Applicable

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 all pollutants are below de minimis levels.

APPLICABLE REQUIREMENTS

Digger Specialties, 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

- *Start-Up, Shutdown, and Malfunction Conditions*, 10 CSR 10-6.050
- *Submission of Emission Data, Emission Fees, and Process Information*, 10 CSR 10-6.110
 - Per 10 CSR 10-6.110(4)(B)1, a full EIQ is required for the first full calendar year the equipment approved by this permit is in operation.
- *Restriction of Emission of Odors*, 10 CSR 10-6.165
- *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

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*, it is recommended that this permit be granted with special conditions.

PERMIT DOCUMENTS

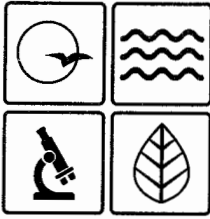
The following documents are incorporated by reference into this permit:

- The Application for Authority to Construct form, dated February 22, 2019, received February 25, 2019, designating Digger Specialties, Inc. as the owner and operator of the installation.

APPENDIX A

Abbreviations and Acronyms

%percent	Mgal1,000 gallons
°Fdegrees Fahrenheit	MWmegawatt
acfmactual cubic feet per minute	MHDRmaximum hourly design rate
BACTBest Available Control Technology	MMBtuMillion British thermal units
BMPsBest Management Practices	MMCFmillion cubic feet
BtuBritish thermal unit	MSDSMaterial Safety Data Sheet
CAMCompliance Assurance Monitoring	NAAQSNational Ambient Air Quality Standards
CASChemical Abstracts Service	NESHAPs National Emissions Standards for Hazardous Air Pollutants
CEMSContinuous Emission Monitor System	NO_xnitrogen oxides
CFRCode of Federal Regulations	NSPSNew Source Performance Standards
COcarbon monoxide	NSRNew Source Review
CO₂carbon dioxide	PMparticulate matter
CO_{2e}carbon dioxide equivalent	PM_{2.5}particulate matter less than 2.5 microns in aerodynamic diameter
COMSContinuous Opacity Monitoring System	PM₁₀particulate matter less than 10 microns in aerodynamic diameter
CSRCode of State Regulations	ppmparts per million
dscfdry standard cubic feet	PSDPrevention of Significant Deterioration
EIQEmission Inventory Questionnaire	PTEpotential to emit
EPEmission Point	RACTReasonable Available Control Technology
EPAEnvironmental Protection Agency	RALRisk Assessment Level
EUEmission Unit	SCCSource Classification Code
fpsfeet per second	scfmstandard cubic feet per minute
ftfeet	SDSSafety Data Sheet
GACTGenerally Available Control Technology	SICStandard Industrial Classification
GHGGreenhouse Gas	SIPState Implementation Plan
gpmgallons per minute	SMALScreening Model Action Levels
grgrains	SO_xsulfur oxides
GWPGlobal Warming Potential	SO₂sulfur dioxide
HAPHazardous Air Pollutant	SSMStartup, Shutdown & Malfunction
hrhour	tphtons per hour
hphorsepower	tpytons per year
lbpound	VMTvehicle miles traveled
lbs/hrpounds per hour	VOCVolatile Organic Compound
MACTMaximum Achievable Control Technology	
µg/m³micrograms per cubic meter	
m/smeters per second	



Missouri Department of dnr.mo.gov

NATURAL RESOURCES

Michael L. Parson, Governor

Carol S. Comer, Director

JUN 12 2019

Mr. Edward John Jones
Plant Manager
Digger Specialties, Inc.
1825 Industrial Avenue
Carthage, MO 64836

RE: New Source Review Permit - Project Number: 2019-02-040

Dear Mr. Jones:

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 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 and your new source review permit application 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.

This permit may include requirements with which you may not be familiar. If you would like the department to meet with you to discuss how to understand and satisfy the requirements contained in this permit, an appointment referred to as a Compliance Assistance Visit (CAV) can be set up with you. To request a CAV, please contact your local regional office or fill out an online request. The regional office contact information can be found at the following website: <http://dnr.mo.gov/regions/>. The online CAV request can be found at <http://dnr.mo.gov/cav/compliance.htm>.

If you were adversely affected by this permit decision, you may be entitled to pursue an appeal before the administrative hearing commission pursuant to Sections 621.250 and 643.075.6 RSMo. To appeal, you must file a petition with the administrative hearing commission within thirty 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 administrative hearing commission, whose contact information is: Administrative Hearing Commission, United States Post Office Building, 131 West High Street, Third Floor, P.O. Box 1557, Jefferson City, Missouri 65102, phone: 573-751-2422, fax: 573-751-5018, website: www.oa.mo.gov/ahc.



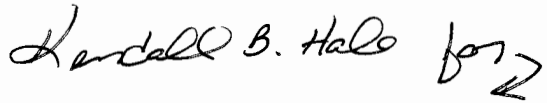
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Mr. Edward John Jones
Page Two

If you have any questions regarding this permit, please contact Ryan Schott, 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

Handwritten signature of Randall B. Halo in cursive, with a stylized flourish at the end.

Susan Heckenkamp
New Source Review Unit Chief

SH:rsd

Enclosures

c: Southwest Regional Office
PAMS File: 2019-02-040

Permit Number: **06 2019 - 005**