

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: 092016-006 Project Number: 2016-05-021
Installation Number: 071-0236

Parent Company: Menard, Inc.

Parent Company Address: 5101 Menard Dr, Eau Claire, WI 54703

Installation Name: Menard, Inc. Industrial Facility

Installation Address: 1950 S Service Road E, Sullivan, MO 63080

Location Information: Franklin County, S34, T41N, R2EW

Application for Authority to Construct was made for:
A new sand drying operation. 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.

Handwritten signature of Chad Stephenson.

Prepared by
Chad Stephenson
New Source Review Unit

Handwritten signature of Kyra L. Moore.

Director or Designee
Department of Natural Resources

SEP 07 2016

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 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's 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 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 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."

Menard, Inc. Industrial Facility
Franklin County, S34, T41N, R2EW

1. Control Device Requirement-Silo Vent Filters
 - A. Menard, Inc. Industrial Facility shall control particulate emissions from the aggregate, lime, dust, and cement silos (EP-20) using silo vent filters, as specified in the permit application.
 - B. The vent filters shall be operated and maintained in accordance with the manufacturer's specifications.
 - C. Replacement filters shall be kept on hand at all times. The filters shall be made of fibers appropriate for operating conditions expected to occur (i.e. temperature limits, acidic and alkali resistance, and abrasion resistance).
 - D. Menard, Inc. Industrial Facility shall maintain a copy of the vent filter manufacturer's performance warranty on site.
 - E. Menard, Inc. Industrial Facility shall maintain an operating and maintenance log for the vent filters 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.
2. Control Device Requirement-Dust Collectors
 - A. Menard, Inc. Industrial Facility shall control particulate emissions from the following equipment using dust collectors, as specified in the permit application:
 - 1) EP-18 Sand Dryer
 - 2) EP-19 Dry Product Conveyors
 - 3) EP-21 Bagging Operation
 - B. The dust collectors shall be operated and maintained in accordance with the manufacturer's specifications. The dust collectors 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

SPECIAL CONDITIONS:

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

Department of Natural Resources' employees may easily observe them.

- C. Replacement filters for the dust collectors shall be kept on hand at all times. The filters shall be made of fibers appropriate for operating conditions expected to occur (i.e. temperature limits, acidic and alkali resistance, and abrasion resistance).
 - D. Menard, Inc. Industrial Facility shall monitor and record the operating pressure drop across the dust collectors at least once every 24 hours while the plant is operating. The operating pressure drop shall be maintained within the design conditions specified by the manufacturer's performance warranty.
 - E. Menard, Inc. Industrial Facility shall maintain a copy of the dust collector manufacturer's performance warranty on site.
 - F. Menard, Inc. Industrial Facility shall maintain an operating and maintenance log for the dust collectors 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.
3. Haul Road Watering
- A. Menard, Inc. Industrial Facility shall water unpaved haul roads whenever conditions exist which would cause visible fugitive emissions to enter the ambient air beyond the property boundary.
 - B. Watering may be suspended when no emissions from haul roads are visible, there was a quarter inch or greater of rainfall within the past 24 hours, the ground is frozen, during periods of freezing conditions when watering would be inadvisable for traffic safety reasons, or when there will be no traffic on the roads.
4. Fuel Requirement-Fluid Bed Sand Dryer
Menard, Inc. Industrial Facility shall burn exclusively natural gas for their fluid bed sand dryer (EP-18)
5. Record Keeping and Reporting Requirements
- A. Menard, Inc. Industrial Facility 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.

Project No. 2016-05-021

Permit No.

092016-006

SPECIAL CONDITIONS:

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

- B. Menard, Inc. Industrial Facility 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 shows an exceedance of a limitation imposed by this permit.

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

Project Number: 2016-05-021
Installation ID Number: 071-0236
Permit Number: 092016-006

Installation Address:
Menard, Inc. Industrial Facility
1950 S Service Road E
Sullivan, MO 63080

Parent Company:
Menard, Inc.
5101 Menard Dr
Eau Claire, WI 54703

Franklin County, S34, T41N, R2EW

REVIEW SUMMARY

- Menard, Inc. Industrial Facility has applied for authority to construct a sand drying operation.
- The application was deemed complete on May 31, 2016.
- HAP emissions are expected from the proposed equipment. HAPs of concern from this process are from the combustion of natural gas in the sand dryer.
- New Source Performance Standards (NSPS) Subpart UUU, "Standards of Performance for Calciners and Dryers in Mineral Industries" applies to the equipment.
- None of the NESHAPs apply to this installation. None of the currently promulgated MACT regulations apply to the proposed equipment.
- Silo Vent Filters and dust collectors are being used to control the PM, PM₁₀, and PM_{2.5} emissions from the equipment in Special Condition 1 and 2 of this permit.
- 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 Franklin 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.
- 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 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 DESCRIPTION

Menard, Inc. Industrial Facility is an existing concrete block plant in Sullivan, Missouri. Raw materials consisting of sand, gravel, and cement are shipped to the facility via trucks. After weighing and mixing the raw materials with water, a block machine uses compression and vibration to form the blocks. Heat from the curing blocks help set the finished product, so no additional heat is required. Finished blocks are cut to size as needed and palletized before leaving the facility via trucks. The facility is able to produce up to 119,600 tons of concrete blocks per year at a maximum design rate of 13.65 tons per hour for the main processes.

A complete list of the installation emission points is included in the table below.

Table 1: Installation Emission Points

Emission Point	Description	Installed or last updated in Project #
EP-01	Cement Silo #1	2015-02-009
EP-02	Cement Silo #2	2015-02-009
EP-03	Weigh Scale Loading	2015-02-009
EP-04	Cement Mixer #1	2015-02-009
EP-05	Cement Mixer #2	2015-02-009
EP-06	Block Tumbler	2015-02-009
EP-07	Block Machine	2015-02-009
EP-08	Block Splitters	2015-02-009
EP-09	Curing Chamber	2015-02-009
EP-10	Mixture Transfer Point #1	2015-02-009
EP-11	Mixture Transfer Point #2	2015-02-009
EP-12	Mixture Transfer Point #3	2015-02-009
EP-13	Paved Roads	2016-05-021
EP-14	Unpaved Roads	2016-05-021
EP-15	Sand Load in	2016-05-021
EP-16	Feeder	2016-05-021
EP-17	Dryer Feed Conveyor	2016-05-021

EP-18	Sand Dryer with fabric filter ¹	2016-05-021
EP-19	Dryer to storage	2016-05-021
EP-20	Storage Silos (x13)	2016-05-021
EP-21	Bagging Operation	2016-05-021
EP-22	Aggregate and Sand Mixture Transfer Point	2016-05-021
EP-23	Truck loading	2016-05-021
EP-24	Dryer Combustion 10.7 mmBTU	2016-05-021

The following New Source Review permits have been issued to Menard, Inc. Industrial Facility from the Air Pollution Control Program.

Table 2: Permit History

Permit Number	Description
042015-005	New concrete block plant

PROJECT DESCRIPTION

Menard, Inc. Industrial Facility is constructing a new sand drying operation at their facility in Sullivan, Missouri. This project is within two years from the most recent project at the facility (Permit #042015-005); however the combined emissions for the two projects are less than de minimis levels and this is being considered a separate project. For the proposed operation wet silica sand will be shipped to the facility via trucks and will be taken directly into the natural gas-fired fluid bed sand dryer. Dust collectors will be employed to control emission from the dryer. Dry sand will be bagged inside the building and will also be controlled by a dust collector filter. A total of 13 new storage silos that will hold aggregate, lime dust and cement are being added to support the new sand drying operation. Each silo will have a bin vent filter. The sand drying and bagging plant will be able to produce up to 40 tons of product per hour. Bagged sand will leave the facility via trucks. The trucks will use the facility existing paved and unpaved haul roads (EP-13 and EP-14).

EMISSIONS/CONTROLS EVALUATION

Emissions for the project were calculated using emission factors found in the United States EPA document AP-42 *Compilation of Air Pollutant Emission Factors, Volume 1: Stationary Point and Area Sources*, Fifth Edition (AP-42).

The emissions from the sand dryer were calculated using emission factors from AP-42 Section 11.19.1, Table 11.19.1-1 Emission Factors for Industrial Sand and Gravel Processing, November 1995. The emission from the sand conveying, handling, and screening were calculated using emission factors from AP-42 Section 11.19.2, Table

11.19.2-2 Emission Factors for Crushed Stone and Processing operations, August 2004. The controlled emission factors were used because the emission points are controlled by a baghouse and/or the inherent moisture content of sand prior to drying is at least 4.17% by weight.

Emissions from haul roads and vehicular activity areas were calculated using the predictive equations from AP-42 Section 13.2.1 *Paved Roads* (January 2011) and Section 13.2.2 *Unpaved Roads* (November 2006). A 50% control efficiency for PM and PM₁₀, and a 22% control efficiency for PM_{2.5} were applied to the emission calculations for the use of undocumented watering of the unpaved haul roads

The following table provides an emissions summary for this project. Existing potential emissions were taken from permit number 042015-005. There are no existing actual emissions since the facility was first permitted in 2015 and a complete EIQ is not available. Potential emissions of the application represent the potential of the new equipment and additional haul road activity, assuming continuous operation (8760 hours per year).

Table 3: Emissions Summary (tpy)

Pollutant	Regulatory De Minimis Levels	Existing Potential Emissions	Existing Actual Emissions	Potential Emissions of the Project	New Installation Conditioned Potential
PM	25.0	4.99	N/A	5.52	10.51
PM ₁₀	15.0	1.77	N/A	3.08	4.85
PM _{2.5}	10.0	1.77	N/A	2.30	4.07
SO _x	40.0	N/A	N/A	0.03	0.03
NO _x	40.0	N/A	N/A	10.03	10.03
VOC	40.0	N/A	N/A	0.25	0.25
CO	100.0	N/A	N/A	3.86	3.86
GHG (CO ₂ e)	75,000 / 100,000	N/A	N/A	10,276.81	10,276.81
GHG (mass)	0.0 / 100.0 / 250.0	N/A	N/A	5,513.85	5,513.85
HAPs	10.0/25.0	N/A	N/A	0.09	0.09

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

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

Menard, Inc. Industrial Facility 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
 - Per 10 CSR 10-6.110(4)(B)2.B(II) and (4)(B)2.C(II) a full EIQ is required for the first full calendar year the equipment (or modifications) approved by this permit are in operation.
- *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

SPECIFIC REQUIREMENTS

- *Restriction of Emission of Particulate Matter From Industrial Processes*, 10 CSR 10-6.400. The sand dryer (EP-18) has a controlled potential to emit 0.40 pounds per hour. Using the process weight equation in 10 CSR 10-6.400(3)(A)1, EP-18 has an allowable emission rate of 42.53 pounds per hour. The bagging operation (EP-21) has a controlled potential to emit 0.01 pounds per hour. Using the process weight equation in 10 CSR 10-6.400(3)(A)1, EP-21 has an allowable emission rate of 42.53 pounds per hour.
- 40 CFR 60 Subpart UUU, "Standards of Performance for Calciners and Dryers in Mineral Industries" applies to the equipment.

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 April 29, 2016, received May 6, 2016, designating Menard, Inc. as the owner and operator of the installation.

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	National Emissions Standards for Hazardous Air Pollutants
CFR	Code of Federal Regulations	NO_x	nitrogen oxides
CO	carbon monoxide	NSPS	New Source Performance Standards
CO₂	carbon dioxide	NSR	New Source Review
CO_{2e}	carbon dioxide equivalent	PM	particulate matter
COMS	Continuous Opacity Monitoring System	PM_{2.5}	particulate matter less than 2.5 microns in aerodynamic diameter
CSR	Code of State Regulations	PM₁₀	particulate matter less than 10 microns in aerodynamic diameter
dscf	dry standard cubic feet	ppm	parts per million
EIQ	Emission Inventory Questionnaire	PSD	Prevention of Significant Deterioration
EP	Emission Point	PTE	potential to emit
EPA	Environmental Protection Agency	RACT	Reasonable Available Control Technology
EU	Emission Unit	RAL	Risk Assessment Level
fps	feet per second	SCC	Source Classification Code
ft	feet	scfm	standard cubic feet per minute
GACT	Generally Available Control Technology	SDS	Safety Data Sheet
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		



Jeremiah W. (Jay) Nixon, Governor • Sara Parker Pauley, Director

DEPARTMENT OF NATURAL RESOURCES

www.dnr.mo.gov

SEP 07 2016

Mr. Scott Nuttelman
Real Estate Representative
Menard, Inc. Industrial Facility
5101 Menard Dr
Eau Claire, WI 54703

RE: New Source Review Permit - Project Number: 2016-05-021

Dear Mr. Nuttelman:

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

Mr. Scott Nuttelman
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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.

If you have any questions regarding this permit, please do not hesitate to contact Chad Stephenson, 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:csj

Enclosures

c: St. Louis Regional Office
PAMS File: 2016-05-021

Permit Number: 092016-006