

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: **102014-014** Project Number: 2014-07-053
Installation Number: 091-0005

Parent Company: Smith Flooring, Inc.

Parent Company Address: 1501 West Highway 60, Mountain View, MO 65548

Installation Name: Smith Flooring, Inc.

Installation Address: 1501 West Highway 60, Mountain View, MO 65548

Location Information: Howell County, S21, T27N, R7W

Application for Authority to Construct was made for:

The construction of a new wood pelleting operation at the existing hardwood flooring 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.

OCT 24 2014

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 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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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."

Smith Flooring, Inc.
Howell County, S21, T27N, R7W

1. PM₁₀ Emission Limitation
 - A. Smith Flooring, Inc. shall emit less than 15.0 tons of PM₁₀ in any consecutive 12-month period from all emission units included in the emission points listed below (see Table 2 for EP details).
 - 1) EP-18
 - 2) EP-19
 - 3) EP-01
 - 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 Conditions 1.A.
2. Control Device Requirement - Baghouse
 - A. Smith Flooring, Inc. shall control particulate emissions from the following equipment using baghouses, as specified in the permit application.
 - 1) EP-18
 - a) Screw Conveyors (2) [EU-0220 and -0240]
 - b) Hammermill [EU-0230]
 - c) Bucket Elevator [EU-0250]
 - d) HT Pellet Pre Bin [EU-0260]
 - 2) EP-01
 - a) Drag Conveyors (4) [EU-0350, -0370, -0420, and -0440]
 - b) Rotex Screener [EU-0360]
 - c) Pellet Elevator [EU-0380]
 - d) Pellet Storage Silo [EU-0390]
 - e) Silo Discharge Conveyor [EU-0400]
 - f) Elevator & Leg [EU-0410]
 - g) Pellet Screener [EU-0430]
 - h) Bagging Machine [EU-0450]

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SPECIAL CONDITIONS:

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

- B. The baghouses shall be operated and maintained in accordance with the manufacturer's specifications. The baghouses 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 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. Smith Flooring, 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. Smith Flooring, Inc. shall maintain a copy of the baghouse manufacturer's performance warranty on site.
 - F. Smith Flooring, 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.
3. Control Device Requirement – Cyclone
- A. Smith Flooring, Inc. shall control particulate emissions from the following equipment using a dry cyclone collector, as specified in the permit application. A removal efficiency of 50.0% for PM₁₀ is required.
 - 1) EP-19
 - a) Screw Conveyors (2) [EU-0270 and -0300]
 - b) Pellet Mill Pre Bin (2) [EU-0280 and -0310]
 - c) Pellet Mill (2) [EU-0290 and -0320]
 - d) Drag Conveyor [EU-0330]
 - e) Pellet Cooler [EU-0340]

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SPECIAL CONDITIONS:

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

- B. The cyclones shall be operated and maintained in accordance with the manufacturer's specifications. The cyclone 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 Department of Natural Resources' employees may easily observe them.
 - C. Smith Flooring, Inc. shall monitor and record the operating pressure drop across the cyclones at least once every 24 hours. The operating pressure drop shall be maintained within the design conditions specified by the manufacturer's performance warranty.
 - D. Smith Flooring, Inc. shall maintain a copy of the cyclone manufacturer's performance warranty on site.
 - E. Smith Flooring, Inc. shall maintain an operating and maintenance log for the cyclones 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.
4. Record Keeping and Reporting Requirements
- A. Smith Flooring, 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.
 - B. Smith Flooring, Inc. 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 (5) REVIEW

Project Number: 2014-07-053
Installation ID Number: 091-0005
Permit Number:

Smith Flooring, Inc.
1501 West Highway 60
Mountain View, MO 65548

Complete: November 4, 2014

Parent Company:
Smith Flooring, Inc.
1501 West Highway 60
Mountain View, MO 65548

Howell County, S21, T27N, R7W

REVIEW SUMMARY

- Smith Flooring, Inc. has applied for authority to construct a new wood pelleting operation at the existing hardwood flooring facility.
- HAP emissions are not expected from the proposed equipment.
- None of the New Source Performance Standards (NSPS) apply to the installation.
- None of the NESHAPs apply to this installation. None of the currently promulgated MACT regulations apply to the proposed equipment.
- Baghouses and a dry cyclone are being used to control the particulate 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 emissions of all pollutants are conditioned below de minimis levels.
- This installation is located in Howell 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.
- Emissions testing is not required for the equipment.
- Approval of this permit is recommended with special conditions.

INSTALLATION DESCRIPTION

The existing installation is a hardwood flooring facility located in Mountain View, Missouri. It is a minor source for construction permits and has an intermediate operating permit (OP# 2011-064) which expires February 8, 2017. The following New Source Review permits have been issued to Smith Flooring, Inc. from the Air Pollution Control Program.

Table 1: Permit History

Permit Number	Description
0893-014	Cogeneration boiler
0596-021	Addition of 4 saws
1197-014	Scrag mill
1197-014A	Baghouse requirement for scrag saw
112001-002	Addition of grinder and pre-surfacer

PROJECT DESCRIPTION

Smith Flooring, Inc. is applying for a construction permit to add a new wood pellet operation to the existing hardwood flooring facility in Mountain View. The plant's existing equipment produces a large amount of sawdust, and this addition will convert the waste sawdust into pellets. These wood pellets will then be bagged and sold as fuel or burned on site for heat. The proposed additions include the emission units listed in Table 2.

Table 2: Emission Units

Emission Point	Emission Unit	Description
EP-18	EU-0220	Screw Conveyor
	EU-0230	Hammermill
	EU-0240	Screw Conveyor
	EU-0250	Bucket Elevator
	EU-0260	HT Pellet Mill Pre Bin
EP-19	EU-0270	Screw Conveyor PM #1
	EU-2080	Pellet Mill Pre Bin #1
	EU-0290	Pellet Mill #1
	EU-0300	Screw Conveyor PM#2
	EU-0310	Pellet Mill Pre Bin #2
	EU-0320	Pellet Mill #2
	EU-0330	Drag Conveyor
	EU-0340	Pellet Cooler
EP-01	EU-0350	Drag Conveyor
	EU-0360	Rotex Screener
	EU-0370	Drag Conveyor
	EU-0380	Pellet Elevator
	EU-0390	Pellet Storage Silo
	EU-0400	Silo Discharge Conveyor
	EU-4010	Elevator & Leg
	EU-0420	Drag Conveyor
	EU-0430	Pellet Screener
	EU-0440	Drag Conveyor
	EU-0450	Bagging Machine

A new baghouse will collect particulate emissions from all emission units being routed to EP-18 (Group 1). A new dry cyclone will collect particulate emissions from all emission units being routed to EP-19 (Group 2). The remaining emissions will be collected and routed to an existing baghouse, EP-01 (Group 3). The MHDR is 20 tons/hr for Group 1,

10 tons/hr for each of the two concurrent process lines in Group 2, and 20 tons/hr for Group 3 (making the overall MHDR 20 tons/hr). The whole process is bottlenecked by the amount of sawdust stored and produced from the existing installation.

EMISSIONS/CONTROLS EVALUATION

The emission factors used in this analysis were obtained from the EPA document AP-42, *Compilation of Air Pollutant Emission Factors, Volume 1: Stationary Point and Area Sources*, Fifth Edition (AP-42) and from the EPA's WebFIRE database (SC 3-07-008-03, Sawdust Pile Handling). Because emission factors for sawdust and wood pelleting operations largely do not exist, some specific emission factors chosen were the greatest comparative values taken from either Section 9.9.1, *Grain Elevators & Process*, May 2003; Section 10.5, *Plywood Manufacturing*, January 2002; or Section 11.19.2, *Crushed Stone Processing*, August 2004. These sections contain emission factors of comparative industrial processes, most similar to what this project includes. Using the greatest respective value ensures that emissions will not be underrepresented. Control efficiencies for PM₁₀ were taken to be 99% for the baghouses and 50% for the cyclone, as listed in AP-42, Appendix B.2, *Generalized Particle Size Distributions*. The handling and storage systems included in this project are completely enclosed and under negative pressure, which allows for 100% capture of particulate emissions.

The following table provides an emissions summary for this project. Existing potential emissions were taken from the previous construction permit (112001-002). Existing actual emissions were taken from the installation's 2013 EIQ. Potential emissions of the application represent the potential of the new equipment, assuming continuous operation (8,760 hours per year) and no control devices used. The limited potential emissions were calculated using control devices and applicable special conditions.

Table 3: Emissions Summary (tons per year)

Pollutant	Regulatory <i>De Minimis</i> Levels	Existing Potential Emissions	Existing Actual Emissions (2013 EIQ)	Potential Emissions of the Application	Limited Potential Emissions of the Application
PM	25.0	N/D	N/D	252.86	22.50
PM ₁₀	15.0	209.1	9.88	168.57	<15.00
PM _{2.5}	10.0	N/D	N/D	28.66	2.55
SO _x	40.0	2.1	1.34	N/A	N/A
NO _x	40.0	31.5	26.45	N/A	N/A
VOC	40.0	108.9	0.93	N/A	N/A
CO	100.0	1171	32.39	N/A	N/A
HAPs	10.0/25.0	N/A	1.23	N/A	N/A

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 conditioned below de minimis levels.

APPLICABLE REQUIREMENTS

Smith Flooring, 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
- *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 (5), Missouri State Rule 10 CSR 10-6.060, *Construction Permits Required*, I recommend this permit be granted with special conditions.

Ryan Schott
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 July 18, 2014, received July 22, 2014, designating Smith Flooring, Inc. as the owner and operator of the installation.
- U.S. EPA document AP-42, *Compilation of Air Pollutant Emission Factors*, Fifth Edition.
- EPA's online Factor Information Retrieval Data System (WebFIRE), last updated August 5, 2014

APPENDIX A

Abbreviations and Acronyms

%percent	m/s meters per second
°Fdegrees Fahrenheit	Mgal 1,000 gallons
acfmactual 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
EQ 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	SIC Standard Industrial Classification
GHG Greenhouse Gas	SIP State Implementation Plan
gpm gallons per minute	SMAL Screening Model Action Levels
gr grains	SO_x sulfur oxides
GWP Global Warming Potential	SO₂ sulfur dioxide
HAP Hazardous Air Pollutant	tph tons per hour
hr hour	tpy tons per year
hp horsepower	VMT vehicle miles traveled
lb pound	VOC Volatile Organic Compound
lbs/hr pounds per hour	
MACT Maximum Achievable Control Technology	
µg/m³micrograms per cubic meter	

Mr. Kent Smith
Vice President
Smith Flooring, Inc.
P.O. Box 99
Mountain View, MO 65548

RE: New Source Review Permit - Project Number: 2014-07-053

Dear Mr. Smith:

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, 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 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

Susan Heckenkamp
New Source Review Unit Chief

SH:rs1

Enclosures

c: Southeast Regional Office
PAMS File: 2014-07-053

Permit Number:

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