

PERMIT BOOK

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: 032010-010 Project Number: 2010-01-033
Parent Company: Oldcastle Architectural Products Group, Incorporated
Parent Company Address: 375 Northridge Road, Suite 250, Atlanta, GA 30350
Installation Name: Oldcastle Lawn and Garden Midwest
Installation Number: 143-0068
Installation Address: 959 School Street, Sikeston, MO 63801
Location Information: New Madrid County, S31, T26N, R14E

Application for Authority to Construct was made for:
Installation of a 6.3 million Btu per hour diesel-fired grinder. 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.

MAR 18 2010

EFFECTIVE DATE

A handwritten signature in black ink, appearing to read "James Kavanagh".

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 Departments' 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 of Natural Resources 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 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 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 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."

Oldcastle Lawn and Garden Midwest
New Madrid County, S31, T26N, R14E

1. Annual Emission Limitation - NO_x
 - A. Oldcastle Lawn and Garden Midwest shall emit less than 40.0 tons of Nitrogen Oxides (NO_x) in any consecutive 12 month period from the diesel-fired grinder (EU13).
 - B. Oldcastle Lawn and Garden Midwest shall maintain an accurate record of NO_x emitted into the atmosphere from the diesel-fired grinder (EU13). Attachment A or an equivalent form shall be used for this purpose.
 - C. Oldcastle Lawn and Garden Midwest shall report to the Air Pollution Control Program's Enforcement Section, P.O. Box 176, Jefferson City, MO 65102, no later than ten (10) days after the end of the month during which the records from Special Condition Number 1.B. indicate that the source exceeds the limitation of Special Condition Number 1.A.
 - D. Oldcastle Lawn and Garden Midwest shall maintain all records required by this permit for not less than five (5) years and shall make them available immediately to any Missouri Department of Natural Resources' personnel upon request.

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

Project Number: 2010-01-033
Installation ID Number: 143-0068
Permit Number:

Oldcastle Lawn and Garden Midwest
959 School Street
Sikeston, MO 63801

Complete: January 15, 2010

Parent Company:
Oldcastle Architectural Products Group, Incorporated
375 Northridge Road, Suite 250
Atlanta, GA 30350

New Madrid County, S31, T26N, R14E

REVIEW SUMMARY

- Oldcastle Lawn and Garden Midwest have applied for the authority to install an 880 horsepower (6.3 million Btu per hour) diesel-fired mulch grinder.
- Hazardous Air Pollutant (HAP) emissions are expected from the proposed equipment due to the combustion of diesel fuel; however, they are below their respective screening model action levels.
- None of the New Source Performance Standards (NSPS) apply to the proposed equipment. 40 CFR 60 Subpart IIII, *Standards of Performance for Stationary Compression Ignition Internal Combustion Engines*, does not apply to the diesel engine as the engine was manufactured in 2004 prior to the applicability date for the NSPS.
- 40 CFR 63 Subpart ZZZZ, *National Emission Standard for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines*, applies to the diesel engine; however, there are no requirements. None of the National Emission Standards for Hazardous Air Pollutants (NESHAPs) apply to this installation.
- No air pollution control equipment is being used in association with the new equipment.
- This review was conducted in accordance with Section (5) of Missouri State Rule 10 CSR 10-6.060, Construction Permits Required. Potential emissions of NO_x are limited to below de minimis levels.
- This installation is located in New Madrid County, an attainment area for all criteria pollutants.

- This installation is not on the List of Named Installations found in 10 CSR 10-6.020(3)(B), Table 2. The installation's major source level is 250 tons per year and fugitive emissions are not counted toward major source applicability.
- Ambient air quality modeling was not performed since potential emissions of the application are limited to below de minimis levels.
- Emissions testing is not required for the equipment.
- No Operating Permit is required for this installation.
- Approval of this permit is recommended with special conditions.

INSTALLATION DESCRIPTION

Oldcastle Lawn & Garden Midwest (Oldcastle) is an existing landscape materials supply facility located in Sikeston, Missouri, in New Madrid County. Oldcastle produces landscaping soil and mulch through grinding, screening, and bagging operations. Oldcastle owns part of a larger facility previously owned by Nova Brick MidAmerica, LLC (Nova Brick). When Oldcastle purchased the soil and mulch production operations from Nova Brick (143-0007) in 2008, the sites were considered separate for construction permitting purposes. Some of the processes now controlled by Oldcastle were included in construction permits previously issued to Nova Brick; however, these permits also included other processes that were not transferred to Oldcastle. Due to the confusing permit history, Oldcastle requested that the facility's existing potential emissions be reviewed for current and future permit applicability purposes, and project number 2009-04-029 determined that Oldcastle is a de minimis source of all regulated air pollutants. No construction permits have been issued to Oldcastle from the Air Pollution Control Program. Appendix A contains a complete list of the existing and proposed emission units.

PROJECT DESCRIPTION

Oldcastle has proposed to install a diesel-fired bark grinder (EU13) to replace an existing electric-powered bark grinder (EU04). The diesel-fired grinder is rated at 880 horsepower (hp) and 6.3 million Btu per hour (mmBtu/hr). The 1-hour maximum design rate of the bark grinder was determined by the applicant to be 33 tons mulch per hour. However, the bark grinder is bottle-necked by the mulch bagging operation rated at 19 tons mulch per hour.

EMISSIONS/CONTROLS EVALUATION

The diesel engine emission factors for NO_x, volatile organic compounds (VOCs), and carbon monoxide (CO) were obtained from manufacturer's test data provided for a CAT model 3412 diesel engine with a brake horsepower (bhp) rating of 880 bhp. All other emission factors used in the analysis of the diesel engine were obtained from the Environmental Protection Agency (EPA) document AP-42, *Compilation of Air Pollutant Emission Factors*, Fifth Edition, Section 3.4 *Large Stationary Diesel And All Stationary Dual-fuel Engines* (October 1996). The PM₁₀ emission factor used to determine the potential emissions from the mulch grinder were obtained from the Factor Information Retrieval (FIRE) Data System version 6.25 for the source classification code (SCC) 3-07-008-01, *Log Debarking*. Potential emissions of particulate matter less than 2.5 microns in diameter (PM_{2.5}) from the mulch grinder were calculated assuming a worst case assumption that 29.5% of the particulate emissions are PM_{2.5}. This particle size distribution is for the emissions from a belt sander, which would be considered a worst case comparison. This particulate size distribution was obtained from AP-42, Appendix B.1, *Particle Size Distribution Data and Sized Emission Factors for Selected Sources* (October 1986). Potential emissions of the application represent the potential of the new equipment, assuming continuous operation (8760 hours per year). The following table provides an emissions summary for this project.

Table 1: Emissions Summary (tons per year)

Pollutant	Regulatory <i>De Minimis</i> Levels	Existing Potential Emissions ^[1]	Existing Actual Emissions (2008 EIQ)	Potential Emissions of the Application	New Installation Conditioned Potential ^[2]
PM ₁₀	15.0	11.87	0.20	2.50	1.99
PM _{2.5}	10.0	N/D	N/D	1.85	1.34
SO _x	40.0	N/A	N/A	0.042	0.028
NO _x	40.0	N/A	N/A	59.09	<40.00
VOC	40.0	N/A	N/A	1.27	0.86
CO	100.0	N/A	N/A	15.37	10.41
Combined HAPs	25.0	N/A	N/A	0.38	0.25

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

¹The existing potential emissions were obtained from project number 2009-04-029.

²Potential emissions of NO_x are conditioned to below the de minimis level. Therefore all other pollutants are proportionately reduced.

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 NO_x are limited to below the de minimis level.

APPLICABLE REQUIREMENTS

Oldcastle 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*
The emission fee is the amount established by the Missouri Air Conservation Commission annually under Missouri Air Law 643.079(1). Submission of an Emissions Inventory Questionnaire (EIQ) is required June 1 for the previous year's emissions.
- *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 10-3.090*

SPECIFIC REQUIREMENTS

- *Restriction of Emission of Particulate Matter From Industrial Processes, 10 CSR 10-6.400*

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.

Kathi Jantz
Environmental Engineer

Date

PERMIT DOCUMENTS

The following documents are incorporated by reference into this permit:

- The Application for Authority to Construct form, dated January 11, 2010, received January 15, 2010, designating Oldcastle Architectural Products Group, Incorporated as the owner and operator of the installation.
- U.S. EPA document AP-42, *Compilation of Air Pollutant Emission Factors*, Fifth Edition.
- Southeast Regional Office Site Survey, dated February 3, 2010.

Appendix A: Installation Emission Unit Summary

Oldcastle Lawn and Garden Midwest
 New Madrid County, S31, T26N, R14E
 Project Number: 2010-01-033
 Installation Number: 143-0068

Installation	Emission Unit ID ^[1]	Description	Maximum Hourly Design Rate	Bottlenecked Design Rate	Control device	Control Efficiency ^[2]
Existing	EU01	Haul Road	750 feet	N/A	40% paved	36%
Existing	EU02	Storage Piles	11 acres	N/A	Moisture Content	90%
Existing	EU03	Mulch Receiving	19 tph	19 tph	Moisture Content	N/D
Existing	EU04	Mulch Grinding	19 tph	33 tph	None	None
Existing	EU05	Mulch Screening	19 tph	33 tph	Moisture Content	N/D
Existing	EU06	Mulch Conveying	19 tph	N/D	Moisture Content	N/D
Existing	EU07	Mulch Bagging	19 tph	19 tph	Moisture Content	N/D
Existing	EU08	Mulch Bulk Loadout	19 tph	N/D	Moisture Content	N/D
Existing	EU09	Soil Receiving	14 tph	14 tph	Moisture Content	N/D
Existing	EU10	Soil Screening	14 tph	25 tph	Moisture Content	N/D
Existing	EU11	Soil Conveying	14 tph	N/D	None	None
Existing	EU12	Soil bagging	14 tph	14 tph	Moisture Content	N/D
New	EU13	Diesel-Fired Grinder	33 tph 6.3 mmBtu/hr	19 tph	None	None

¹Information on the existing emission units (EU01-EU12) was obtained from project number 2009-04-029.

²Due to the high moisture content expected for bark/mulch and soil, the controlled emission factors were used.

Mr. David Gavlick
Purchasing and Safety
Oldcastle Lawn and Garden Midwest
1 Riverview Avenue
Sauget, IL 63801

RE: New Source Review Permit - Project Number: 2010-01-033

Dear Mr. Gavlick:

Enclosed with this letter is your permit to construct. Please study it carefully. Also, note the special conditions, if any, on the accompanying pages. The document entitled, "Review of Application for Authority to Construct," is part of the permit and should be kept with this permit in your files. Operation in accordance with these conditions 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.

If you have any questions regarding this permit, please do not hesitate to contact Kathi Jantz, at the Departments' 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

Kendall B. Hale
New Source Review Unit Chief

KBH:kjl

Enclosures

c: Southeast Regional Office
PAMS File: 2010-01-033

Permit Number: