



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: 112011-008

Project Number: 2011-06-016
Installation ID: 510-2953

Parent Company: Midwest Shingle Recycling

Parent Company Address: 7455 Hall Street, St. Louis, MO 63147

Installation Name: Midwest Shingle Recycling

Installation Address: 7455 Hall Street, St. Louis, MO 63147

Location Information: City of St. Louis, Missouri

Application for Authority to Construct was made for:

The installation of a new asphalt shingles grinding plant. 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.

NOV 21 2011

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 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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SITE SPECIFIC 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."

1. Annual Emission Limit
 - A. Midwest Shingle Recycling shall emit less than 15.0 tons of particulate matter less than ten microns in diameter (PM₁₀) in any 12-month period from the entire installation.
 - B. Midwest Shingle Recycling shall demonstrate compliance with Special Condition 1.A. using Attachment A or other equivalent forms that have been approved by the Air Pollution Control Program, including electronic forms.
2. Restriction on the Use of Asbestos-Containing Shingles
Midwest Shingle Recycling is not permitted to process any material containing asbestos. Any unidentified shingles shall be rejected. Any material suspected to contain asbestos shall be rejected. All visible material not part of the shingles, including, but not limited to, extra wood, paper, metals and plastics are to be removed before processing and the material must not have been in contact with any hazardous substances.
3. Record Keeping Requirement
Midwest Shingle Recycling shall maintain all records required by this permit for not less than five years and make them available to any Missouri Department of Natural Resources' personnel upon request.
4. Reporting Requirement
Midwest Shingle Recycling shall report to the Air Pollution Control Program Enforcement Section P.O. Box 176, Jefferson City, MO 65102, no later than ten days after any exceedances of the limitations imposed by this permit.

REVIEW OF APPLICATION FOR AUTHORITY TO CONSTRUCT AND OPERATE
SECTION (6) REVIEW

Project Number: 2011-06-016
Installation ID Number: 510-2953
Permit Number:

Midwest Shingle Recycling
7455 Hall Street
St. Louis, MO 63147

Complete: July 25, 2011

Parent Company:
Midwest Shingle Recycling
7455 Hall Street
St. Louis, MO 63147

PROJECT DESCRIPTION

The facility proposes to recycle non-asbestos containing asphalt shingles by installing a grinder to grind them into a usable product. The grinder has a maximum hourly design rate (MHDR) of 60 tons per hour and is powered by a 630 horsepower (hp) diesel engine. A diesel engine rated 40.8 hp is used to power a manual sorting station. The applicant will use one of the methods described in Attachment AA, "Best Management Practices," to control emissions from haul roads and vehicular activity areas.

This installation is located in the City of St. Louis, a nonattainment area for the eight-hour ozone standard and the 1997 particulate matter less than two-and-a-half microns in diameter (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. Since it is located in a nonattainment area for ozone and PM_{2.5}, the major source level is 100 tons per year for volatile organic compounds (VOC) and nitrogen oxides (NO_x), which are ozone precursors, and PM_{2.5}. The installation's major source level is 250 tons per year for all other pollutants. Fugitive emissions are not counted toward major source applicability. No operating permit is required for the installation. Emissions of all pollutants, except particulate matter (PM), are below their respective *de minimis* level and PM emissions do not trigger operating permit requirements.

The majority of the grinding will take place at the permanent facility in St. Louis. The grinder may be moved to other sites to process shingles but it is expected that no more than ten percent of the total shingles ground will be processed at the other sites. However, it is not known when the grinder may be moved and/or how long the grinder will operate at the permanent site before it is moved. Therefore, this facility is permitted as a stationary installation. Subpart IIII, *Standards of Performance for Stationary Compression Ignition Internal Combustion Engines*, of the New Source Performance Standards (NSPS) and Subpart ZZZZ, *National Emissions Standards for Hazardous Air*

Pollutants for Stationary Reciprocating Internal Combustion Engines, of the National Emissions Standards for Hazardous Air Pollutants for Source Categories (also known as Maximum Achievable Control Technology (MACT)) also apply to the diesel engines.

This permit only allows the grinder to operate at its permanent site in the City of St. Louis. When it moves to another site, a determination must be made whether a permit is needed for that particular site. Before moving to another location, Midwest Shingle Recycling should contact the Air Pollution Control Program to see if a permit review is needed.

TABLES

The table below summarizes the emissions of this project. The potential emissions of the application represent the emissions of all equipment and activities assuming continuous operation (8,760 hours per year). The conditioned potential emissions include emissions from sources that will limit their production to ensure compliance with the annual emission limit. The PM₁₀ conditioned potential is based on a voluntary limit to avoid dispersion modeling requirements found in 10 CSR 10-6.060 Section (6). Other pollutants proportionally reduced.

Table 1: Emissions Summary (tons per year)

Air Pollutant	De Minimis Level/SMAL	Existing Potential Emissions	Existing Actual Emissions (EIQ)	Potential Emissions of the Application	Conditioned Potential Emissions
PM	25.0	N/A	N/A	144.79	58.04
PM ₁₀	15.0	N/A	N/A	37.22	<15.0
PM _{2.5}	10.0	N/A	N/A	5.59	2.25
SO _x	40.0	N/A	N/A	1.39	0.56
NO _x	40.0	N/A	N/A	23.41	9.43
VOC	40.0	N/A	N/A	0.73	0.29
CO	100.0	N/A	N/A	3.97	1.60
HAPs	10.0/25.0	N/A	N/A	0.04	0.01

N/A = Not Applicable

EMISSIONS CALCULATIONS

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

Emissions from the grinding equipment were calculated using emission factors from AP-42, Section 11.19.2, "Crushed Stone Processing and Pulverized Mineral Processing," August, 2004. The controlled emission factors were used because the oil in the asphalt shingles should limit emissions. Emissions from the diesel engines/generators were calculated using emission factors from AP-42, Section 3.4, "Large Stationary Diesel and All Stationary Dual-fuel Engines," October, 1996. Emissions from haul roads and

vehicular activity areas were calculated using the predictive equation from AP-42, Section 13.2.1, "Paved Roads," January, 2011. Emissions from load-in and load-out of storage piles were calculated using the predictive equation from AP-42, Section 13.2.4, "Aggregate Handling and Storage Piles," November, 2006. The moisture content used in the equation is 1.5 percent by weight due to the oil content in the shingles. Emissions from wind erosion of storage piles were calculated using an equation found in the Air Pollution Control Program's Emissions Inventory Questionnaire Form 2.8 "Storage Pile Worksheet."

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.

APPLICABLE REQUIREMENTS

Midwest Shingle Recycling 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.
- No operating permit is required for this installation.
- *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

- Subpart 000, *Standards of Performance for Nonmetallic Mineral Processing Plants*, of the NSPS applies to the equipment of this permit.
- Subpart III, *Standards of Performance for Stationary Compression Ignition Internal Combustion Engines*, of the NSPS applies to the diesel engines used to power the grinder and the sorter.

- Subpart ZZZZ, *National Emissions Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines*, of the MACT applies to the diesel engines used to power the grinder and the sorter.
- *Restriction of Emission of Sulfur Compounds*, 10 CSR 10-6.260

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
Environmental Engineer

Date

PERMIT DOCUMENTS

The following documents are incorporated by reference into this permit:

- The Application for Authority to Construct form, dated June 6, 2011, received June 7, 2011, designating Midwest Shingle Recycling as the owner and operator of the installation.
- U.S. EPA document AP-42, *Compilation of Air Pollutant Emission Factors*, Fifth Edition.

Mr. Larry Kutun
Owner
Midwest Shingle Recycling
7455 Hall Street
St. Louis, MO 63147

RE: New Source Review Permit - Project Number: 2011-06-016

Dear Mr. Kutun:

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 Chia-Wei Young, at the Department's Air Pollution Control Program, P.O. Box 176, Jefferson City, MO 65102, or by telephone at (573) 751-4817. Thank you for your time and attention to this matter.

Sincerely,

AIR POLLUTION CONTROL PROGRAM

Kendall B. Hale
New Source Review Unit Chief

KBH:cyk

Enclosures

c: St. Louis Regional Office
PAMS File: 2011-06-016

Permit Number: