

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: 07 2015 - 003 Project Number: 2014-12-059
Installation Number: 095-0272

Parent Company: City of Lee's Summit

Parent Company Address: 220 SE Green Street, Lee's Summit, MO 64063

Installation Name: Lee's Summit Resource Recovery Park

Installation Address: 2101 SE Hamblen Road, Lee's Summit, MO 64082

Location Information: Jackson County, S21, T47N, R31W

Application for Authority to Construct was made for:
The previously unpermitted rock-crushing, composting, and mulching operations. 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.

JUL 07 2015

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."

Lee's Summit Resource Recovery Park
Jackson County, S21, T47N, R31W

1. PM_{2.5} Emission Limitation
 - A. Lee's Summit Resource Recovery Park shall emit less than 10.0 tons of PM_{2.5} in any consecutive 12-month period from the emission points listed in Table 1.

Table 1. Project Emission Points

Emission Point	Description
EP-05	Rock Crusher
EP-06	Rock Crusher Storage Piles (2)
EP-07A	Haul Roads – Rock Crusher Receiving
EP-07B	Haul Roads – Outgoing Crushed Rock
EP-08	Tub Grinder
EP-09	Organic Waste Screener
EP-10	Organic Waste Storage Piles (4)
EP-11	Mulch Mixer
EP-12	Mulch Storage Pile
EP-13A	Haul Roads – Compost/ Mulch Receiving
EP-13B	Haul Roads – Outgoing Compost
EP-13C	Haul Roads – Outgoing Mulch

- 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 Condition 1.A.
2. Haul Road Watering
 - A. Lee's Summit Resource Recovery Park shall water 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 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.

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SPECIAL CONDITIONS:

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

3. Record Keeping and Reporting Requirements
 - A. Lee's Summit Resource Recovery Park 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. Lee's Summit Resource Recovery Park 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: 2014-12-059
Installation ID Number: 095-0272
Permit Number:

Lee's Summit Resource Recovery Park
2101 SE Hamblen Road
Lee's Summit, MO 64082
Jackson County, S21, T47N, R31W

Complete: January 28, 2015

Parent Company:
City of Lee's Summit
220 SE Green Street
Lee's Summit, MO 64063

REVIEW SUMMARY

- Lee's Summit Resource Recovery Park has submitted a permit application regarding the previously unpermitted rock-crushing, composting, and mulching operations.
- The only expected HAP emissions are the insignificant amounts resulting from the combustion of fuel in the rock crusher's diesel engine.
- 40 CFR 60 Subpart WWW, *Standards of Performance for Municipal Solid Waste Landfills*, and 40 CFR 60 Subpart OOO, *Standards of Performance for Nonmetallic Mineral Processing Plants*, apply to the facility.
- 40 CFR 63 Subpart ZZZZ, *National Emission Standard for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines*, applies to the rock crusher engine (EP-05).
- Undocumented watering is being used to control fugitive particulate emissions from haul roads.
- This review was conducted in accordance with Section (5) of Missouri State Rule 10 CSR 10-6.060, *Construction Permits Required*. Potential emissions of PM_{2.5} are conditioned below de minimis levels. Potential emissions of all other criteria pollutants are subsequently limited below their respective de minimis levels.
- This installation is located in Jackson County, a maintenance area for ozone 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.

- Emissions testing is not required for the equipment.
- An application for an amendment to your Part 70 Operating Permit is required for this installation within 1 year of equipment startup.
- Approval of this permit is recommended with special conditions.

INSTALLATION DESCRIPTION

The City of Lee's Summit owns and operates a municipal solid waste landfill (Lee's Summit Resource Recovery Park) in Jackson County. The design capacity is 3,441,355 Megagrams (Mg) of total waste. This facility is a minor source for construction permits and was issued a Part 70 Operating Permit in July 2010, due to it being subject to Subpart WWW of the NSPS.

The following New Source Review permits have been issued to Lee's Summit Resource Recovery Park from the Air Pollution Control Program.

Table 1: Permit History

Permit Number	Description
112002-008	Installation of an open flare
112011-004	Addition of asphalt shingle storage pile and related hauling activities

PROJECT DESCRIPTION

Lee's Summit Resource Recovery Park utilizes a rock crusher to produce crushed aggregate for city projects. Concrete and rock are brought onsite and stored in piles until they are crushed for use by a 325 hp diesel engine powered rock crusher. The overall maximum design rate for the rock crushing operation is 125 tons per hour. The facility also accepts source-separated organic waste (leaves, grass clippings, small brush), and uses it to produce compost and mulch. The material is initially processed through a diesel powered tub grinder and then stored in piles until further processed. Material designated to be compost is transferred to the main composting area and placed into windrows. When composting is finished, the material is screened and stored in the final area for customer pickup. The maximum design rate of organic waste processing is 52.5 tons per hour. Material that is to be used for mulch is either transferred to the finished mulch storage area or processed through a diesel powered mixer, where staining takes place. Up to 10.5 tons of mulch per hour can be processed by the mixer. Following staining, the mulch is transported to the finished mulch storage area, into its respective color pile.

The rock-crushing, composting, and mulching operations were never previously permitted, but during a review of the facility for preparation of the Part 70 Operating Permit renewal, it was determined that a construction permit was necessary for these processes.

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.

Particulate emission factors for the receiving, crushing, and loadout of rock were taken from AP-42 Section 11.19.2, *Crushed Stone Processing and Pulverized Mineral Processing* (August 2004). Emission factors for the composting and mulching operations were taken from AP-42 (Fourth Edition) Section 10.3, *Plywood Veneer and Layout Operations* (February 1980). The revoked emission factor for “log debarking” was used because no other emission factors exist which accurately represent the emissions resulting from the cutting/ grinding of organic waste into composting material and mulch. The particle size distributions used for unlisted PM_{2.5} emission factors were taken from the CEIDARS database, Appendix A.

Emission factors for the diesel engine were taken from AP-42 Section 3.3, *Gasoline and Diesel Industrial Engines* (October 1996).

Particulate emissions resulting from load in/ out, vehicular activity, and wind erosion of storage piles were calculated using the equations found in AP-42 Section 13.2.4, *Aggregate Handling and Storage Piles* (November 2006) and the EIQ Form 2.8, *Storage Pile Worksheet Instructions* (February 2009). Emissions from haul roads were calculated using the predictive equation from AP-42 Section 13.2.2 *Unpaved Roads*, November 2006.

The following table provides an emissions summary for this project. Existing potential emissions were taken from the previous construction permit 112011-004. Existing actual emissions were taken from the installation’s 2013 EIQ. Potential emissions of the application represent the potential of the previously unpermitted equipment, assuming continuous operation (8,760 hours per year). New project conditioned potential emissions represent the subsequent potential of the equipment after limiting PM_{2.5} emissions below the de minimis level.

Table 2: 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	New Project Conditioned Potential Emissions
PM	25.0	53.90	N/D	334.77	23.97
PM ₁₀	15.0	18.22	2.10	193.44	13.85
PM _{2.5}	10.0	5.05	0.54	139.66	<10.0
SO _x	40.0	1.21	0.30	2.89	0.21
NO _x	40.0	8.39	0.87	43.94	3.15
VOC	40.0	36.01	4.12	3.59	0.26
CO	100.0	<100.0	16.36	9.47	0.68
Combined HAPs	25.0	7.60	0.67	0.038	0.0027

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 PM_{2.5} are conditioned below de minimis levels. Potential emissions of all other criteria pollutants are subsequently limited below their respective de minimis levels.

APPLICABLE REQUIREMENTS

Lee's Summit Resource Recovery Park 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. For a complete list of applicable requirements for your installation, please consult your operating permit.

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

SPECIFIC REQUIREMENTS

- *New Source Performance Regulations*, 10 CSR 10-6.070
 - – *Standards of Performance for Municipal Solid Waste Landfills*, 40 CFR Part 60, Subpart WWW
 - – *Standards of Performance for Nonmetallic Mineral Processing Plants*, 40 CFR Part 60, Subpart OOO
- *Maximum Achievable Control Technology*, 10 CSR 10-6.075
 - – *National Emission Standard for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines*, 40 CFR Part 63, Subpart ZZZZ
 -

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 December 19, 2014, received December 31, 2014, designating City of Lee's Summit 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
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	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		

Mr. Chris Bussen
Solid Waste Superintendent
Lee's Summit Resource Recovery Park
220 SE Green Street
Lee's Summit, MO 64063

RE: New Source Review Permit - Project Number: 2014-12-059

Dear Mr. Bussen:

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 amended 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 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 of 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, Truman State Office Building, P.O. Box 1557, Jefferson City, Missouri 65102, website: www.oa.mo.gov/ahc.

If you have any questions regarding this permit, 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.

Sincerely,

AIR POLLUTION CONTROL PROGRAM

Susan Heckenkamp
New Source Review Unit Chief

SH:rs1

Enclosures

c: Kansas City Regional Office
PAMS File: 2014-12-059
Permit Number: