



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: 092015-009

Project Number: 2015-05-022

Installation Number: 510-0035

Parent Company: Buckeye Terminals, LLC

Parent Company Address: Five TEK Park, 9999 Hamilton Boulevard, Breinigsville, PA 18031

Installation Name: Buckeye North St. Louis Terminal

Installation Address: 239 East Prairie Avenue, St. Louis, MO 63147

Location Information: St. Louis City (T46N, R7E)

Application for Authority to Construct was made for:

The installation of a soil vapor extraction system. 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.

Ryan Schott

Prepared by
Ryan Schott
New Source Review Unit

Kyra L Moore

Director or Designee
Department of Natural Resources

SEP 17 2015

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 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.

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."

Buckeye North St. Louis Terminal
St. Louis City County, (T46N, R7E)

1. Control Device Requirement – Catalytic Oxidizer
 - A. Buckeye North St. Louis Terminal shall control emissions from EP-50 (Soil Vapor Extraction) using a catalytic oxidizer, as specified in the permit application.
 - B. The catalytic oxidizer shall be operated and maintained in accordance with the manufacturer's specifications. The catalytic oxidizer shall be equipped with a gauge or meter which indicates the temperature of the catalyst chamber. This gauge or meter shall be located such that Department of Natural Resources' employees may easily observe it.
 - C. Buckeye North St. Louis Terminal shall continuously monitor and record the temperature of the catalyst chamber while EP-50 is operating. This includes all periods of startup, shutdown, and malfunction. The temperature of the catalyst chamber shall be maintained within the design conditions specified by the manufacturer's performance warranty, and the temperature of the catalyst shall never be less than 330°C while EP-50 is operating.
 - D. The VOC concentration and the air flow rate of the vapor loaded into the catalytic oxidizer must be maintained within the operating range specified by the manufacturer.
 - E. Buckeye North St. Louis Terminal shall maintain an operation and maintenance log for the catalytic oxidizer, 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. Record Keeping and Reporting Requirements
 - A. Buckeye North St. Louis Terminal 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. These records shall include SDS for all materials used.

SPECIAL CONDITIONS:

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

- B. Buckeye North St. Louis Terminal 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: 2015-05-022
Installation ID Number: 510-0035
Permit Number:

Installation Address:

Buckeye North St. Louis Terminal
239 East Prairie Avenue
St. Louis, MO 63147
St. Louis City (T46N, R7E)

Parent Company:

Buckeye Terminals, LLC
Five TEK Park, 9999 Hamilton Boulevard
Breinigsville, PA 18031

REVIEW SUMMARY

- Buckeye North St. Louis Terminal has applied for authority to install a soil vapor extraction system.
- The application was deemed complete on Date June 17, 2015.
- HAP emissions are expected from the proposed equipment. All HAP emissions are below their respective SMALs.
- 40 CFR Part 60, Subpart XX, *Standards of Performance for Bulk Gasoline Terminals*, applies to the installation.
- None of the NESHAPs apply to this installation. None of the currently promulgated MACT regulations apply to the proposed equipment.
- A catalytic oxidizer is being used to control VOC and HAP 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 criteria pollutants are below de minimis levels.
- This installation is located in St. Louis City 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.
- Emissions testing is not required for the equipment.
- Submittal of an application to amend your Basic Operating Permit is required within 30 days of equipment startup.

- Approval of this permit is recommended with special conditions.

INSTALLATION DESCRIPTION

Buckeye North St. Louis Terminal is a bulk gasoline storage and distribution terminal located in the city of St. Louis. It has formerly been known under the name Equilon Enterprises. The facility currently has a Basic Operating Permit (OP10004) that expires on January 11, 2016.

The following New Source Review permits have been issued to Buckeye North St. Louis Terminal from the Air Pollution Control Program:

Table 1: Permit History

Permit Number	Description
98-07-045	St. Louis local permit: Diesel and ethanol terminal

PROJECT DESCRIPTION

Buckeye North St. Louis Terminal is proposing to install a soil vapor extraction (SVE) system in response to the incidental release of gasoline from an above-ground storage tank in January 2015. The scope of this project consists of vacuum vapor extraction from up to eight (8) vapor-extraction wells installed within the area where the release occurred. A vacuum will be applied to the well(s) using a regenerative blower in order to recover VOC vapors from subsurface soil. Recovered vapors are then transferred to an electric oxidizer where they are heated and destroyed. The maximum design rate of the SVE is 3.0 pounds of vapor per hour.

EMISSIONS/ CONTROLS EVALUATION

Emissions from the recovery of gasoline vapors were obtained using a mass balance approach. Weight percentages of each compound in the gasoline were taken from the gasoline SDS and multiplied by the maximum design rate of the SVE. Emission rates for each individual HAP were calculated in this fashion. It was assumed that 100% of the gasoline is VOC and that 100% of all recovered VOCs and HAPs are emitted.

The VOC and HAP destruction efficiency from the catalytic oxidizer was conservatively assumed to be 95%, which is the minimum value provided by the manufacturer.

The following table provides an emissions summary for this project. Existing potential emissions were taken from the previous operating permit (OP10003 & 10004) Existing actual emissions were taken from the installation's 2014 EIQ. Potential emissions of the application represent the potential of the new equipment, assuming continuous operation (8,760 hours per year). Conditioned potential emissions account for the use of control devices.

Table 2: Emissions Summary (tons per year)

Pollutant	Regulatory <i>De Minimis</i> Levels	Existing Potential Emissions	Existing Actual Emissions (2014 EIQ)	Potential Emissions of the Application	Conditioned Potential Emissions of the Application
PM	25.0	N/D	N/A	N/A	N/A
PM ₁₀	15.0	N/D	N/A	N/A	N/A
PM _{2.5}	10.0	N/D	N/A	N/A	N/A
SO _x	40.0	N/D	N/A	N/A	N/A
NO _x	40.0	N/D	N/A	N/A	N/A
VOC	40.0	62.31	13.53	13.14	0.66
CO	100.0	N/D	N/A	N/A	N/A
Total HAPs	25.0	4.68	N/A	0.99	0.05

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 criteria pollutants are below de minimis levels.

APPLICABLE REQUIREMENTS

Buckeye North St. Louis Terminal 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 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 Bulk Gasoline Terminals*, 40 CFR Part 60, Subpart XX

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.

PERMIT DOCUMENTS

The following documents are incorporated by reference into this permit:

- The Application for Authority to Construct form, dated June 15, 2015, received June 17, 2015, designating Buckeye Terminals, LLC 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. Jeff Brudereck
Senior Project Manager, Remediation
Buckeye North St. Louis Terminal
Five TEK Park, 9999 Hamilton Boulevard
Breinigsville, PA 18031

RE: New Source Review Permit - Project Number: 2015-05-022

Dear Mr. Brudereck:

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 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, MO 65102, 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.

Sincerely,

AIR POLLUTION CONTROL PROGRAM

Susan Heckenkamp
New Source Review Unit Chief

SH:rs1

Enclosures

c: St. Louis Regional Office
PAMS File: 2015-05-022
Permit Number: