

STATE OF MISSOURI
DEPARTMENT OF NATURAL RESOURCES

Jeremiah W. (Jay) Nixon, Governor • Sara Parker Pauley, Director

www.dnr.mo.gov

MAR 25 2014

Mr. Bruce Hamilton
Senior Environmental Engineer
Harbison-Walker Refractories Company
400 Fairway Drive
Moon Township, PA 15108

RE: New Source Review Temporary Permit Request - Project Number: 2014-02-018
Installation ID Number: 007-0003
Temporary Permit Number: **032014-007**
Expiration Date: March 10, 2015

Dear Mr. Hamilton:

The Missouri Department of Natural Resources' Air Pollution Control Program has completed a review of your request to run a trial on a new mixer to produce 54,000 pounds of chrome containing material at Harbison-Walker Refractories Company, located in Vandalia, Missouri. The Air Pollution Control Program is hereby granting your request to conduct this temporary operation at this location in accordance with Missouri State Rule 10 CSR 10-6.060(3).

Harbison-Walker Refractories Company will run a trial on a new mixer that is routed through an existing dust collector (EP-CD-33) at the Vandalia facility. The purpose of the trial is to test the consistency of the mixed material for final production. Chromic oxide will be mixed with water, poured into a mold, dried in a pallet dryer (EP-F), dried in the south dryer M (EU-0010) or the tunnel dryer (EP-N1), and fired in the natural gas fired tunnel kiln #4 (EP-D). The kiln fired products will be referred to as dobies. Harbison-Walker Refractories Company will produce a maximum of 54,000 pounds of the final product in this trial run. Upon completion of this 54,000 pound production level or March 10, 2015, whichever comes first, this temporary permit will expire. If the consistency of the dobies produced during this trial is acceptable, then Harbison-Walker Refractories Company will consider applying for authority to construct a full scale operation of the mixer. Potential particulate emissions were estimated using an emission factor for raw material mixing/weighing for fiberglass manufacturing that was obtained from EPA Technology Transfer Network Clearinghouse for Inventories & Emissions Factors (WebFIRE SCC 3-05-012-23). Potential chromium (III) emissions are based on the molecular weight ratio of chromium to chromic acid multiplied by the total emissions of particulate. The potential to emit from this trial run are shown in Table 1 and are based on 54,000 pounds of final product. The potential emissions due to natural gas combustion are based on emission factors from the EPA document AP-42, *Compilation of Air Pollutant Emission Factors*, Fifth Edition, Section 1.4 *Natural Gas Combustion* (July 1998) and continuous operation of the pallet dryer (EP-F), south dryer (EU-0010), tunnel dryer (EP-N1), and tunnel kiln #4 (EP-D). However, continuous operation will not be necessary to complete the trial as stated in this permit. In order to retain the mixing process as the bottleneck of the production process, Harbison-Walker

Mr. Bruce Hamilton
Page Two

Refractories Company shall limit chromium compounds used in mixers that process refractory shapes mixes to 128,800 tons in any consecutive 12-month period expressed as chromic oxide (Cr_2O_3).

Table 1: Potential Emissions (tons)

Pollutant	De minimis level/SMAL*	Potential to Emit
PM	25.0	0.38
PM ₁₀	15.0	1.46
PM _{2.5}	10.0	1.46
VOC	40.0	1.03
NO _x	40.0	18.8
SO _x	40.0	0.11
CO	40.0	15.79
GHG (mass)	250.0	22,555
GHG (CO ₂ eq)	100,000	22,691
HAPs	10.0/25.0	0.36
Chromium (III)	5.0*	0.013

*Screening model action level

You are still obligated to meet all applicable air pollution control rules, Department of Natural Resources' rules, or any other applicable federal, state, or local agency regulations. Specifically, you should avoid violating 10 CSR 10-6.045 *Open Burning Requirements*, 10 CSR 10-6.220, *Restriction of Emission of Visible Air Contaminants*, 10 CSR 10-6.165 *Restriction of Emission of Odors*, 10 CSR 10-6.170 *Restriction of Particulate Matter to the Ambient Air Beyond the Premises of Origin*, and 10 CSR 10-6.400 *Restriction of Emission of Particulate Matter From Industrial Processes*.

A copy of this letter should be kept with the unit and be made available to Department of Natural Resources' personnel upon verbal request. If you have any questions regarding this determination, please do not hesitate to contact J Luebbert 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



Kyra L. Moore
Director

KLM:jlk

c: PAMS File: 2014-02-018
Northeast Regional Office

Page No.	1
Permit No.	032014-007
Project No.	2014-02-018

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."

Harbison-Walker Refractories Company
1000 Booker Street
Vandalia, MO 63382

1. Production Limit
 - A. Harbison-Walker Refractories Company shall limit the material throughput into the temporary mixer to less than 54,000 pounds.
 - B. Harbison-Walker Refractories Company shall limit chromium compounds used in mixers that process refractory shapes mixes to 128,800 tons in any consecutive 12-month period expressed as chromic oxide (Cr_2O_3) as stated in Permit Condition (EU0016 through EU00222)-001 from permit number OP2007-012.
 - C. Harbison-Walker Refractories Company shall use Attachment A of this permit to demonstrate compliance with Special Condition 1.A. of this permit.
 - D. Harbison-Walker Refractories Company shall use Attachment C of Permit Number OP2007-012 to demonstrate compliance with Special Condition 1.B. of this permit.
2. Record Keeping and Reporting Requirements

Harbison-Walker Refractories Company 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 Material Safety Data Sheets for all materials used.

