



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

DEPARTMENT OF NATURAL RESOURCES

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APR 07 2015

Mr. Michael Schalk
Harbison-Walker Refractories Company - Fulton Plant
1301 Westminster Avenue
Fulton, MO 65251

Re: Harbison-Walker Refractories Company - Fulton Plant, 027-0001
Permit Number:

Dear Mr. Schalk:

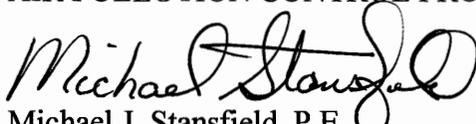
Enclosed with this letter is your Part 70 operating permit. Please review this document carefully. Operation of your installation in accordance with the rules and regulations cited in this document is necessary for continued compliance. It is very important that you read and understand the requirements contained in your permit.

You may appeal this permit to the Administrative Hearing Commission (AHC), P.O. Box 1557, Jefferson City, MO 65102, as provided in RSMo 643.078.16 and 621.250.3. If you choose to appeal, you must file a petition with the AHC 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 AHC.

If you have any questions or need additional information regarding this permit, please do not hesitate to contact Berhanu Getahun at the St. Louis Regional Office, 7545 S. Lindbergh, Suite 210, St. Louis, MO 63125, or by telephone at (314) 416-2960. You may also contact me with 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


Michael J. Stansfield, P.E.
Operating Permit Unit Chief

MJS:bg

Enclosures

c: Robert Cheever, US EPA Region VII
Northeast Regional Office
PAMS File: 2004-05-119





PART 70 PERMIT TO OPERATE

Under the authority of RSMo 643 and the Federal Clean Air Act the applicant is authorized to operate the air contaminant source(s) described below, in accordance with the laws, rules, and conditions set forth herein.

Operating Permit Number: OP2015-008
Expiration Date: APR 07 2020
Installation ID: 027-0001
Project Number: 2004-05-119

Installation Name and Address

Harbison-Walker Refractories Company -
Fulton Plant
1301 Westminster Avenue
Fulton, MO 65251
Callaway County

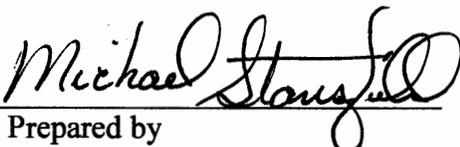
Parent Company's Name and Address

Harbison-Walker Refractories Company
400 Fairway Drive
Moon Township, PA 15108

Installation Description:

Harbison-Walker Refractories Company operates a refractory raw materials manufacturing plant in Fulton, Missouri. The Fulton plant consists primarily of a rotary kiln/cooler system. The equipment was installed in 1963 and is composed of the rotary kiln and the rotary cooler. This equipment is used to prepare raw materials (high alumina bauxite, clay and vitreous silica) for further processing in the brick manufacturing procedure.

The installation has the potential to emit particulate matter less than 10 microns (PM₁₀), particulate matter less than 2.5 Microns (PM_{2.5}), sulfur oxides (SO_x), nitrogen oxides (NO_x) and carbon monoxide (CO) above the major source thresholds.

for/ 
Prepared by
Berhanu A. Getahun
Operating Permit Unit


Director or Designee
Department of Natural Resources

APR 07 2015

Effective Date

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I. Installation Description and Equipment Listing

INSTALLATION DESCRIPTION

Harbison-Walker Refractories Company operates a refractory raw materials manufacturing plant in Fulton, Missouri. The Fulton plant consists primarily of a rotary kiln/cooler system. The equipment was installed in 1963 and is composed of the rotary kiln and the rotary cooler. This equipment is used to prepare raw materials (high alumina bauxite, clay and vitreous silica) for further processing in the brick manufacturing procedure. The rotary kiln is equipped with a set of cyclones and an electrostatic precipitator (ESP) for particulate matter emission control and emissions from the rotary cooler is controlled by a baghouse. The installation has the potential to emit particulate matter less than ten microns (PM₁₀), sulfur oxides (SO_x), nitrogen oxides (NO_x) and carbon monoxide (CO) above the major source thresholds.

The reported actual emissions for the past five years for the installation are listed below:

Reported Air Pollutant Emissions, tons per year					
Pollutants	2013	2012	2011	2010	2009
Particulate Matter ≤ Ten Microns (PM ₁₀)	1.68	1.48	0.13	1.64	2.35
Particulate Matter ≤ 2.5 Microns (PM _{2.5})	0.58	0.53	0.02	0.22	0.47
Sulfur Oxides (SO _x)	12.30	13.69	0.00	16.90	29.05
Nitrogen Oxides (NO _x)	5.23	5.79	0.09	7.17	12.22
Volatile Organic Compounds (VOC)	0.11	0.12	0.00	0.15	0.26
Carbon Monoxide (CO)	3.75	4.14	0.07	5.14	8.74
Lead (Pb)	0.00	0.00	0.00	0.00	0.00
Hazardous Air Pollutants (HAPs)	0.00	0.00	0.00	0.00	0.00
Ammonia (NH ₃)	0.00	0.00	0.00	0.00	0.00

EMISSION UNITS WITH LIMITATIONS

The following list provides a description of the equipment at this installation that emits air pollutants and that are identified as having unit-specific emission limitations.

Emission Unit #	Description of Emission Unit
E-0001	Rotary Kiln
E-0030	Rotary Cooler
E-0051	Raw Clay/Shale Crushing and Screening
E-0053	Primary Crushing

EMISSION UNITS WITHOUT LIMITATIONS

The following list provides a description of the equipment that does not have unit specific limitations at the time of permit issuance.

Emission Unit #	Description of Emission Unit
E-0033 & E-0034	Haul Roads
E-0036	970 Gallons Diesel Fuel Storage Tank
Z-1	One (1) Parts Washer Using Mineral Sprits Model PW20G with 20 Gallon Capacity
E-0038	Seven (7) Natural Gas-Fired Space Heaters 1 – 60,000 Btu/hr 5 – 100,000 Btu/hr 1 – 140,000 Btu/hr
E-1052, E-1055, E-1065, E-1066, E-1078, E-1081, E-1082, E-1084, E-1087, E-1093, E-1095, E-1097 E-1111, E-1112, & E-1200,	Raw Materials and Products Stockpiles

II. Plant Wide Emission Limitations

The installation shall comply with each of the following emission limitations. Consult the appropriate sections in the Code of Federal Regulations (CFR) and Code of State Regulations (CSR) for the full text of the applicable requirements. All citations, unless otherwise noted, are to the regulations in effect as of the date that this permit is issued.

None

III. Emission Unit Specific Emission Limitations

The installation shall comply with each of the following emission limitations. Consult the appropriate sections in the Code of Federal Regulations (CFR) and Code of State Regulations (CSR) for the full text of the applicable requirements. All citations, unless otherwise noted, are to the regulations in effect as of the date that this permit is issued.

E0001 – Rotary Kiln			
Emission Unit	Description	Manufacturer/ Model #	2013 EIQ Reference #
E0001	Rotary Kiln: 9.5 foot diameter x 200 feet long rotary kiln; MHDR 21 ton/hr; 80 MMBtu/hr; natural gas fired; control device Buell Model A electrostatic precipitator; installation date 1963	Fuller Co.	E-0001

PERMIT CONDITION E0001-001

10 CSR 10-6.220 Restriction of Emission of Visible Air Contaminants
 10 CSR 10-6.400 Restriction of Emission of Particulate Matter from Industrial Processes
 40 CFR Part 64 Compliance Assurance Monitoring (CAM)

Emission Limitation:

- 1) The permittee shall not cause or permit to be discharged into the atmosphere from E0001 any visible emissions with an opacity greater than 40%.
- 2) Exception: The permittee may discharge into the atmosphere from E0001 for a period(s) aggregating not more than six (6) minutes in any 60 minutes air contaminants with an opacity up to 60%.
- 3) The permittee shall not emit particulate matter from E0001 in excess of 31.53 pounds per hour.
- 4) The permittee shall not emit particulate matter from E0001 in a concentration in excess of 0.30 grains per standard cubic feet of exhaust gasses.

Monitoring:

- 1) The permittee is subject to the CAM plan contained in Attachment A.
- 2) *CAM Compliance Indicators:* The following CAM Indicators shall be used to monitor the control device (electrostatic precipitator):
 - a) Primary voltage shall be measured and recorded two times per shift or approximately every four hours using a voltmeter when the unit is operating.
 - b) Primary current/precipitator current shall be measured and recorded two times per shift or approximately every four hours using an ammeter when the unit is operating.
- 3) *CAM Compliance Indicator Range:* An excursion is defined as an ESP secondary voltage and current measurement outside of the following ranges:
 - a) Primary Voltage: A Side: 100 - 400 volts; B Side: 120 - 400 volts
 - b) Primary Current: A Side: 10 - 87 amps; B Side: 20 - 87 amps
 - c) Precipitator Current: A Side: 120 - 550 milliamps; B Side: 150 - 550 milliamps
- 4) An excursion is defined as ESP readings out of the listed range. Excursions trigger a Method 22 inspection, corrective action and a reporting requirement if visual observation required performance of a Method 9 inspection.

- 5) *Proper maintenance*: At all times, the permittee shall maintain the monitoring, including but not limited to, maintaining necessary parts for routine repairs of the monitoring equipment. [§64.7(b)]
- 6) *Continued operation*: Except for, as applicable, monitoring malfunctions, associated repairs, and required quality assurance or control activities, the permittee shall collect data at all required intervals when the emission unit is operating. Data recorded during monitoring malfunctions, associated repairs, and required quality assurance or control activities shall not be used for purposes of part 64. The permittee shall use all the data collected during all other periods in assessing the operation of the control device and associated control system. A monitoring malfunction is any sudden, infrequent, not reasonably preventable failure of the monitoring to provide valid data. Monitoring failures that are caused in part by poor maintenance or careless operation are not malfunctions. [§64.7(c)]
- 7) *Response to exceedances*: [§64.7(d)]
 - a) Upon detecting an exceedance, the permittee shall restore operation of the emission unit (including the control device and associated capture system) to its normal or usual manner of operation as expeditiously as practicable in accordance with good air pollution control practices for minimizing emissions. The response shall include minimizing the period of any startup, shutdown or malfunction and taking any necessary corrective actions to restore normal operation and prevent the likely recurrence of the cause of an exceedance (other than those caused by excused startup or shutdown conditions). Such actions may include initial inspection and evaluation, recording that operations returned to normal without operator action (such as through response by a computerized distribution control system), or any necessary follow-up actions to return operation to within the indicator range, designated condition, or below the applicable emission limitation or standard, as applicable. [§64.7(d)(1)]
 - b) Determination of whether the permittee has used acceptable procedures in response to an excursion or exceedance will be based on information available, which may include but is not limited to, monitoring results, review of operation and maintenance procedures and records, and inspection of the control device, associated capture system, and the process. [§64.7(d)(2)]

Recordkeeping:

- 1) *General Recordkeeping Requirements*:
 - a) The permittee shall comply with the recordkeeping requirements specified in §70.6(a)(3)(ii). The permittee shall maintain records of monitoring data, monitor performance data, corrective actions taken, any written quality improvement plan required pursuant to §64.8 and any activities undertaken to implement a quality improvement plan, and other supporting information required to be maintained under part 64 (such as data used to document the adequacy of monitoring, or records of monitoring maintenance or corrective actions). [§64.9(b)(1)]
 - b) Instead of paper records, the permittee may maintain records on alternative media, such as microfilm, computer files, magnetic tape disks, or microfiche, provided that the use of such alternative media allows for expeditious inspection and review, and does not conflict with other applicable recordkeeping requirements. [§64.9(b)(2)]
- 2) All records shall be maintained for five years.
- 3) These records shall be made available immediately for inspection to the Department of Natural Resources' personnel upon their verbal request and presentation of identification.

Reporting:

- 1) *General Reporting Requirements*: The permittee shall submit semi-annual monitoring certified by a responsible official using the semi-annual monitoring report and annual compliance certification to the Air Pollution Control Program Enforcement Section, P.O. Box 176, Jefferson City, MO 65102,

as required by 10 CSR 10-6.065(6)(C)1.C.(III). The report shall include, at a minimum, the following information, as applicable: [§64.9(a)(1) & (2)]

- a) All instances of deviations from permit requirements must be clearly identified;
 - b) Prompt reporting of deviations from permit requirements, including those attributable to upset conditions as defined in the permit, the probable cause of such deviations, and any corrective actions or preventive measures taken;
 - c) Summary information on the number, duration and cause (including unknown cause, if applicable) of excursions or exceedances, as applicable, and the corrective actions taken; [§64.9(a)(2)(i)]
 - d) Summary information on the number, duration and cause (including unknown cause, if applicable) for monitor downtime incidents (other than downtime associated with zero and span or other daily calibration checks, if applicable); and [§64.9(a)(2)(ii)]
 - e) A description of the actions taken to implement a QIP during the reporting period as specified in 40 CFR 64.8. Upon completion of a QIP, the permittee shall include in the next summary report documentation that the implementation of the plan has been completed and reduced the likelihood of similar levels of excursions or exceedances occurring. [§64.9(a)(2)(iii)].
- 2) *Documentation of need for improved monitoring*: If the permittee identifies a failure to achieve compliance with this permit condition for which the approved monitoring did not provide an indication of an exceedance while providing valid data, or the results of compliance or performance testing document a need to modify the existing indicator ranges or designated conditions, the permittee shall promptly notify the Air Pollution Control Program and, if necessary, submit a proposed modification to the part 70 permit to address the necessary monitoring changes. Such a modification may include, but is not limited to, reestablishing indicator ranges or designated conditions, modifying the frequency of conducting monitoring and collecting data, or the monitoring of additional parameters. [§64.7(e)]
- 3) The permittee shall report to the Air Pollution Control Program, Enforcement Section, P. O. Box 176, Jefferson City, MO 65102, no later than ten (10) days after any deviations/exceedance of the Emission Limitation.

E0030 – ROTARY COOLER

Emission Unit	Description	Manufacturer/ Model #	2013 EIQ Reference #
E0030	Rotary Cooler: 8.5 foot diameter x 84 foot long rotary cooler; MHDR 15.75 ton/hr; control device baghouse; installation date 1963	Stansteel	E-0030

PERMIT CONDITION E0030-001

10 CSR 10-6.220 Restriction of Emission of Visible Air Contaminants
 10 CSR 10-6.400 Restriction of Emission of Particulate Matter from Industrial Processes
 40 CFR Part 64 Compliance Assurance Monitoring (CAM)

Emission Limitation:

- 1) The permittee shall not cause or permit to be discharged into the atmosphere from E0030 any visible emissions with an opacity greater than 40%.
- 2) Exception: The permittee may discharge into the atmosphere from E0030 for a period(s) aggregating not more than six (6) minutes in any 60 minutes air contaminants with an opacity up to 60%.
- 3) The permittee shall not emit particulate matter from E0030 in excess of 26.00 lb/hr.
- 4) The permittee shall not emit particulate matter from E0030 in a concentration in excess of 0.30 grain per standard cubic feet of exhaust gases.

Monitoring:

- 1) The permittee is subject to the CAM plan contained in Attachment B.
- 2) *CAM Compliance Indicators:* The following CAM Indicators shall be used to monitor the control device (baghouse):
 - a) Visible Emissions (Opacity Monitoring)
 - i) Visible emissions from the baghouse stack exhaust shall be monitored using EPA Reference Method 22-like procedures on a daily basis to ensure no visible emissions during the operation of this unit. The permittee is only required to take readings when the emission unit is operating and when the weather conditions allow.
 - b) Pressure Drop
 - i) The permittee shall check and document the baghouse pressure drop daily. The pressure drop across the baghouse shall be maintained within the range of 1.0 to 7.0 inches of water (H₂O).
- 3) *CAM Compliance Indicator Range:* An excursion is defined as either the presence of visible emissions or as a pressure drop less than 1.0 in H₂O or a pressure drop greater than 7.0 in H₂O. A pressure drop outside of the normal operating range. An excursion of either indicator constitutes an excursion. If visible emissions are present when the pressure drop is within its specified indicator range and no baghouse problems are identified as the cause, the pressure drop indicator range shall be re-evaluated by Harbison-Walker Refractories Company. Excursions trigger an inspection, corrective action, and need to be reported in the next Semiannual Monitoring Report; if an excursion results in excess emissions exceeding one hour, Harbison-Walker Refractories Company may elect to file a startup, shutdown, and malfunction assertion under 10 CSR 10-6.050 if appropriate to the situation.

- 4) *Proper maintenance*: At all times, the permittee shall maintain the monitoring, including but not limited to, maintaining necessary parts for routine repairs of the monitoring equipment. [§64.7(b)]
- 5) *Continued operation*: Except for, as applicable, monitoring malfunctions, associated repairs, and required quality assurance or control activities, the permittee shall collect data at all required intervals when the emission unit is operating. Data recorded during monitoring malfunctions, associated repairs, and required quality assurance or control activities shall not be used for purposes of part 64. The permittee shall use all the data collected during all other periods in assessing the operation of the control device and associated control system. A monitoring malfunction is any sudden, infrequent, not reasonably preventable failure of the monitoring to provide valid data. Monitoring failures that are caused in part by poor maintenance or careless operation are not malfunctions. [§64.7(c)]
- 6) *Response to exceedances*: [§64.7(d)]
 - a) Upon detecting an exceedance, the permittee shall restore operation of the emission unit (including the control device and associated capture system) to its normal or usual manner of operation as expeditiously as practicable in accordance with good air pollution control practices for minimizing emissions. The response shall include minimizing the period of any startup, shutdown or malfunction and taking any necessary corrective actions to restore normal operation and prevent the likely recurrence of the cause of an exceedance (other than those caused by excused startup or shutdown conditions). Such actions may include initial inspection and evaluation, recording that operations returned to normal without operator action (such as through response by a computerized distribution control system), or any necessary follow-up actions to return operation to within the indicator range, designated condition, or below the applicable emission limitation or standard, as applicable. [§64.7(d)(1)]
 - b) Determination of whether the permittee has used acceptable procedures in response to an excursion or exceedance will be based on information available, which may include but is not limited to, monitoring results, review of operation and maintenance procedures and records, and inspection of the control device, associated capture system, and the process. [§64.7(d)(2)]

Recordkeeping:

- 1) *General Recordkeeping Requirements*:
 - a) The permittee shall comply with the recordkeeping requirements specified in §70.6(a)(3)(ii). The permittee shall maintain records of monitoring data, monitor performance data, corrective actions taken, any written quality improvement plan required pursuant to §64.8 and any activities undertaken to implement a quality improvement plan, and other supporting information required to be maintained under part 64 (such as data used to document the adequacy of monitoring, or records of monitoring maintenance or corrective actions). [§64.9(b)(1)]
 - b) Instead of paper records, the permittee may maintain records on alternative media, such as microfilm, computer files, magnetic tape disks, or microfiche, provided that the use of such alternative media allows for expeditious inspection and review, and does not conflict with other applicable recordkeeping requirements. [§64.9(b)(2)]
- 2) All records shall be maintained for five years.
- 3) These records shall be made available immediately for inspection to the Department of Natural Resources' personnel upon their verbal request and presentation of identification.

Reporting:

- 1) *General Reporting Requirements*: The permittee shall submit semi-annual monitoring certified by a responsible official using the semi-annual monitoring report and annual compliance certification to the Air Pollution Control Program Enforcement Section, P.O. Box 176, Jefferson City, MO 65102,

as required by 10 CSR 10-6.065(6)(C)1.C.(III). The report shall include, at a minimum, the following information, as applicable: [§64.9(a)(1) & (2)]

- a) All instances of deviations from permit requirements must be clearly identified;
 - b) Prompt reporting of deviations from permit requirements, including those attributable to upset conditions as defined in the permit, the probable cause of such deviations, and any corrective actions or preventive measures taken;
 - c) Summary information on the number, duration and cause (including unknown cause, if applicable) of excursions or exceedances, as applicable, and the corrective actions taken; [§64.9(a)(2)(i)]
 - d) Summary information on the number, duration and cause (including unknown cause, if applicable) for monitor downtime incidents (other than downtime associated with zero and span or other daily calibration checks, if applicable); and [§64.9(a)(2)(ii)]
 - e) A description of the actions taken to implement a QIP during the reporting period as specified in 40 CFR 64.8. Upon completion of a QIP, the permittee shall include in the next summary report documentation that the implementation of the plan has been completed and reduced the likelihood of similar levels of excursions or exceedances occurring. [§64.9(a)(2)(iii)].
- 2) *Documentation of need for improved monitoring:* If the permittee identifies a failure to achieve compliance with this permit condition for which the approved monitoring did not provide an indication of an exceedance while providing valid data, or the results of compliance or performance testing document a need to modify the existing indicator ranges or designated conditions, the permittee shall promptly notify the Air Pollution Control Program and, if necessary, submit a proposed modification to the part 70 permit to address the necessary monitoring changes. Such a modification may include, but is not limited to, reestablishing indicator ranges or designated conditions, modifying the frequency of conducting monitoring and collecting data, or the monitoring of additional parameters. [§64.7(e)]
- 3) The permittee shall report to the Air Pollution Control Program, Enforcement Section, P. O. Box 176, Jefferson City, MO 65102, no later than ten (10) days after any deviations/exceedance of the Emission Limitation.

E0051 – CRUSHING & SCREENING E0053 – JAW CRUSHER			
Emission Unit	Description	Manufacturer/ Model #	2013 EIQ Reference #
E0051	Crushing & Screening: vent for two sizing screens, one vertical shaft crusher (bottom), four belt conveyors and one elevator, three bagging stations; MHDR 25 ton/hr; control device baghouse; installation date 1998	NA	E-0051
E0053	Jaw Crusher: vent for one scalping screen and surge bin, one jaw crusher and one vibrating feeder, one belt conveyor, one elevator, one vibrating feeder, vertical shaft crusher (top); MHDR 15 ton/hr; control device baghouse; installation date 1998	NA	E-0053

PERMIT CONDITION E0051-001 and E0053-001

10 CSR 10-6.060 Construction Permits Required
Construction Permit No. 0399-002, Issued January 19, 1999

Emission Limitation:

Harbison-Walker Refractories Company (Harbison-Walker) shall emit less than 14.7 tons of particulate matter less than ten (10) microns in diameter (PM₁₀) from the equipment covered in Construction Permit No. 0399-002 in any consecutive 12-month period. This condition specifically applies to the following operations: crushing, screening, and material transfer (E0051 and E0053).

[CP No. 0399-002, Special Condition No. 1]

Equipment Specifications:

- 1) The cartridge collectors or dust collection systems associated with this process must be in use at all times when the refractory products crushing system is in operation, and shall be operated and maintained in accordance with the manufacturer's specifications.
[CP No. 0399-002, Special Condition No. 8]
- 2) These baghouses dust collectors shall be equipped with a gauge or meter which indicates the pressure drop across the collector. This gauge or meter shall be located such that it may be easily observed by the Department of Natural Resources' (DNR) employees.
[CP No. 0399-002, Special Condition No. 8]
- 3) Replacement bags cartridges for the collectors shall be kept on hand at all times. The bags shall be made of fibers appropriate for operating conditions expected to occur (i.e. temperature limits, acidic and alkali resistance, and abrasion resistance). [CP No. 0399-002, Special Condition No. 8]

Monitoring/Recordkeeping:

- 1) Harbison-Walker shall use Attachment C, "Monthly PM10 Emission Tracking Record", or an equivalent form to verify compliance with the emission limitation.
[CP No. 0399-002, Special Condition No. 2]
- 2) Harbison-Walker shall monitor and record the operating pressure drop across the dust collectors at least once every 24 hours. The operating pressure drop shall be maintained within the design conditions specified by the manufacturer's performance warranty.
[CP No. 0399-002, Special Condition No. 9]
- 3) Harbison-Walker shall maintain an operating and maintenance log for the dust collectors which shall include the following: [CP No. 0399-002, Special Condition No. 10]
 - a) incidents of malfunction, with impact on emissions, duration of event, probable cause, and corrective actions; and
 - b) maintenance activities, with inspection schedule, repair actions, and replacements, etc.
- 4) All records shall be maintained for five years.
- 5) These records shall be made available immediately for inspection to the Department of Natural Resources' personnel upon their verbal request and presentation of identification.

Reporting:

Harbison-Walker shall report to the Air Pollution Control Program's (APCP'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 required records indicate that the emission limitation has been exceeded.

[CP No. 0399-002, Special Condition No. 3]

PERMIT CONDITION E0051-002 and E0053-002

10 CSR 10-6.070 New Source Performance Regulations
40 CFR Part 60 Subpart A General Provisions and
40 CFR Part 60 Subpart OOO Standards of Performance for Nonmetallic Mineral Processing Plants

Emission Limitation:

- 1) The permittee shall cause not to be discharged into the atmosphere from any transfer point on belt conveyors or from any other affected facility any stack emissions which: [§60.672(a)]
 - a) Contain particulate matter in excess of 0.05 gram per dry cubic feet at standard conditions (g/dscm); and [Table 2 of Subpart OOO]
 - b) Exhibit greater than 7 percent opacity. [Table 2 of Subpart OOO]
- 2) The permittee shall not cause to be discharged into the atmosphere fugitive emissions escaping from the capture systems of E0051 and E0053 which exhibit greater than 10 percent opacity. [40 CFR 60.672(b) and Table 3 of Subpart OOO]

Monitoring:

- 1) The permittee shall conduct opacity readings on each emission unit using the procedures contained in USEPA Test Method 22. The permittee is only required to take readings when the emission unit is operating and when the weather conditions allow. If the permittee observes no visible or other significant emissions using these procedures, then no further observations are required. For emission units with visible emissions perceived or believed to exceed the applicable opacity standard, the source representative would then conduct a Method 9 observation.
- 2) The permittee must maintain the following monitoring schedule:
 - a) The permittee shall conduct weekly observations for a minimum of eight (8) consecutive weeks after permit issuance.
 - b) Should the permittee observe no violations of this regulation during this period then-
 - i) The permittee may observe once every two (2) weeks for a period of eight (8) weeks.
 - ii) If a violation is noted, monitoring reverts to weekly.
 - iii) Should no violation of this regulation be observed during this period then-
 - (1) The permittee may observe once per month.
 - (2) If a violation is noted, monitoring reverts to weekly.
- 3) If the source reverts to weekly monitoring at any time, monitoring frequency will progress in an identical manner from the initial monitoring frequency.

Recordkeeping:

- 1) The permittee shall maintain records of all opacity observation results using Attachment D (or its equivalent), noting:
 - a) Whether any air emissions (except for water vapor) were visible from the emission units;
 - b) All emission units from which visible emissions occurred;
 - c) Whether the visible emissions were normal for the process;
- 2) The permittee shall maintain records of any equipment malfunctions, using Attachment F (or its equivalent), which may contribute to visible emissions; and,
- 3) The permittee shall maintain records of all USEPA Method 9 opacity tests performed using Attachment E (or its equivalent).
- 4) The permittee shall maintain records of test results and reports for not less than five years.
- 5) These records shall be made available immediately for inspection to the Department of Natural Resources' personnel upon their verbal request and presentation of identification.

Reporting:

- 1) The permittee shall report any deviations/exceedances of this permit condition using the semi-annual monitoring report and annual compliance certification to the Air Pollution Control Program Enforcement Section, P.O. Box 176, Jefferson City, MO 65102, as required by 10 CSR 10-6.065(6)(C)1.C.(III).

IV. Core Permit Requirements

The installation shall comply with each of the following regulations or codes. Consult the appropriate sections in the Code of Federal Regulations (CFR), the Code of State Regulations (CSR), and local ordinances for the full text of the applicable requirements. All citations, unless otherwise noted, are to the regulations in effect as of the date that this permit is issued. The following is only an excerpt from the regulation or code, and is provided for summary purposes only.

10 CSR 10-6.045 Open Burning Requirements

- 1) General Provisions. The open burning of tires, petroleum-based products, asbestos containing materials, and trade waste is prohibited, except as allowed below. Nothing in this rule may be construed as to allow open burning which causes or constitutes a public health hazard, nuisance, a hazard to vehicular or air traffic, nor which violates any other rule or statute.
- 2) Refer to the regulation for a complete list of allowances. The following is a listing of exceptions to the allowances:
 - a) Burning of household or domestic refuse. Burning of household or domestic refuse is limited to open burning on a residential premises having not more than four dwelling units, provided that the refuse originates on the same premises.
- 3) Certain types of materials may be open burned provided an open burning permit is obtained from the director. The permit will specify the conditions and provisions of all open burning. The permit may be revoked if the owner or operator fails to comply with the conditions or any provisions of the permit.
- 4) Harbison-Walker Refractories Company - Fulton Plant may be issued an annually renewable open burning permit for open burning provided that an air curtain destructor or incinerator is utilized and only tree trunks, tree limbs, vegetation or untreated wood waste are burned. Open burning shall occur at least two hundred (200) yards from the nearest occupied structure unless the owner or operator of the occupied structure provides a written waiver of this requirement. Any waiver shall accompany the open burning permit application. The permit may be revoked if Harbison-Walker Refractories Company - Fulton Plant fails to comply with the provisions or any condition of the open burning permit.
- 5) Reporting and Record Keeping. New Source Performance Standard (NSPS) 40 CFR Part 60 Subpart CCCC establishes certain requirements for air curtain destructors or incinerators that burn wood trade waste. These requirements are established in 40 CFR 60.2245-60.2260. The provisions of 40 CFR part 60 Subpart CCCC promulgated as of September 22, 2005 shall apply and are hereby incorporated by reference in this rule, as published by the U.S. Government Printing Office, 732 N Capitol Street NW, Washington, DC 20401. To comply with NSPS 40 CFR 60.2245-60.2260, sources must conduct an annual Method 9 test. A copy of the annual Method 9 test results shall be submitted to the director.
- 6) Test Methods. The visible emissions from air pollution sources shall be evaluated as specified by 40 CFR part 60, Appendix A–Test Methods, Method 9–Visual Determination of the Opacity of Emissions from Stationary Sources. The provisions of 40 CFR part 60, Appendix A, Method 9 promulgated as of December 23, 1971 is incorporated by reference in this rule, as published by the U.S. Government Printing Office, 732 N Capitol Street NW, Washington, DC 20401.

10 CSR 10-6.050 Start-up, Shutdown and Malfunction Conditions

- 1) In the event of a malfunction, which results in excess emissions that exceed one hour, the permittee shall submit to the director within two business days, in writing, the following information:

- a) Name and location of installation;
 - b) Name and telephone number of person responsible for the installation;
 - c) Name of the person who first discovered the malfunction and precise time and date that the malfunction was discovered.
 - d) Identity of the equipment causing the excess emissions;
 - e) Time and duration of the period of excess emissions;
 - f) Cause of the excess emissions;
 - g) Air pollutants involved;
 - h) Best estimate of the magnitude of the excess emissions expressed in the units of the applicable requirement and the operating data and calculations used in estimating the magnitude;
 - i) Measures taken to mitigate the extent and duration of the excess emissions; and
 - j) Measures taken to remedy the situation that caused the excess emissions and the measures taken or planned to prevent the recurrence of these situations.
- 2) The permittee shall submit the paragraph 1 information list to the director in writing at least ten days prior to any maintenance, start-up or shutdown, which is expected to cause an excessive release of emissions that exceed one hour. If notice of the event cannot be given ten days prior to the planned occurrence, it shall be given as soon as practicable prior to the release. If an unplanned excess release of emissions exceeding one hour occurs during maintenance, start-up or shutdown, the director shall be notified verbally as soon as practical during normal working hours and no later than the close of business of the following working day. A written notice shall follow within ten working days.
 - 3) Upon receipt of a notice of excess emissions issued by an agency holding a certificate of authority under section 643.140, RSMo, the permittee may provide information showing that the excess emissions were the consequence of a malfunction, start-up or shutdown. The information, at a minimum, should be the paragraph 1 list and shall be submitted not later than 15 days after receipt of the notice of excess emissions. Based upon information submitted by the permittee or any other pertinent information available, the director or the commission shall make a determination whether the excess emissions constitute a malfunction, start-up or shutdown and whether the nature, extent and duration of the excess emissions warrant enforcement action under section 643.080 or 643.151, RSMo.
 - 4) Nothing in this rule shall be construed to limit the authority of the director or commission to take appropriate action, under sections 643.080, 643.090 and 643.151, RSMo to enforce the provisions of the Air Conservation Law and the corresponding rule.
 - 5) Compliance with this rule does not automatically absolve the permittee of liability for the excess emissions reported.

10 CSR 10-6.060 Construction Permits Required

The permittee shall not commence construction, modification, or major modification of any installation subject to this rule, begin operation after that construction, modification, or major modification, or begin operation of any installation which has been shut down longer than five years without first obtaining a permit from the permitting authority.

10 CSR 10-6.065 Operating Permits

The permittee shall file a complete application for renewal of this operating permit at least six months before the date of permit expiration. In no event shall this time be greater than eighteen months. [10 CSR 10-6.065(6)(B)1.A(V)] The permittee shall retain the most current operating permit issued to this installation on-site. [10 CSR 10-6.065(6)(C)1.C(II)] The permittee shall immediately make such permit

available to any Missouri Department of Natural Resources personnel upon request. [10 CSR 10-6.065(6)(C)3.B]

10 CSR 10-6.080 Emission Standards for Hazardous Air Pollutants and 40 CFR Part 61 Subpart M National Emission Standard for Asbestos

- 1) The permittee shall follow the procedures and requirements of 40 CFR Part 61, Subpart M for any activities occurring at this installation which would be subject to provisions for 40 CFR Part 61, Subpart M, National Emission Standard for Asbestos.
- 2) The permittee shall conduct monitoring to demonstrate compliance with registration, certification, notification, and Abatement Procedures and Practices standards as specified in 40 CFR Part 61, Subpart M.

10 CSR 10-6.110 Submission of Emission Data, Emission Fees and Process Information

- 1) The permittee shall submit full emissions report either electronically via MoEIS, which requires Form 1.0 signed by an authorized company representative, or on Emission Inventory Questionnaire (EIQ) paper forms on the frequency specified in this rule and in accordance with the requirements outlined in this rule. Alternate methods of reporting the emissions, such as spreadsheet file, can be submitted for approval by the director.
- 2) The permittee may be required by the director to file additional reports.
- 3) Public Availability of Emission Data and Process Information. Any information obtained pursuant to the rule(s) of the Missouri Air Conservation Commission that would not be entitled to confidential treatment under 10 CSR 10-6.210 shall be made available to any member of the public upon request.
- 4) The permittee shall pay an annual emission fee per ton of regulated air pollutant emitted according to the schedule in the rule. This fee is an emission fee assessed under authority of RSMo. 643.079.
- 5) The fees shall be payable to the Department of Natural Resources and shall be accompanied by the emissions report.
- 6) The permittee shall complete required reports on state supplied EIQ forms or electronically via MoEIS. Alternate methods of reporting the emissions can be submitted for approval by the director. The reports shall be submitted to the director by April 1 after the end of each reporting year. If the full emissions report is filed electronically via MoEIS, this due date is extended to May 1.
- 7) The reporting period shall end on December 31 of each calendar year. Each report shall contain the required information for each emission unit for the twelve (12)-month period immediately preceding the end of the reporting period.
- 8) The permittee shall collect, record and maintain the information necessary to complete the required forms during each year of operation of the installation.

10 CSR 10-6.130 Controlling Emissions During Episodes of High Air Pollution Potential

This rule specifies the conditions that establish an air pollution alert (yellow/orange/red/purple), or emergency (maroon) and the associated procedures and emission reduction objectives for dealing with each. The permittee shall submit an appropriate emergency plan if required by the Director.

10 CSR 10-6.150 Circumvention

The permittee shall not cause or permit the installation or use of any device or any other means which, without resulting in reduction in the total amount of air contaminant emitted, conceals or dilutes an emission or air contaminant which violates a rule of the Missouri Air Conservation Commission.

10 CSR 10-6.170

Restriction of Particulate Matter to the Ambient Air Beyond the Premises of Origin

- 1) The permittee shall not cause or allow to occur any handling, transporting or storing of any material; construction, repair, cleaning or demolition of a building or its appurtenances; construction or use of a road, driveway or open area; or operation of a commercial or industrial installation without applying reasonable measures as may be required to prevent, or in a manner which allows or may allow, fugitive particulate matter emissions to go beyond the premises of origin in quantities that the particulate matter may be found on surfaces beyond the property line of origin. The nature or origin of the particulate matter shall be determined to a reasonable degree of certainty by a technique proven to be accurate and approved by the director.
- 2) The permittee shall not cause nor allow to occur any fugitive particulate matter emissions to remain visible in the ambient air beyond the property line of origin.
- 3) Should it be determined that noncompliance has occurred, the director may require reasonable control measures as may be necessary. These measures may include, but are not limited to, the following:
 - a) Revision of procedures involving construction, repair, cleaning and demolition of buildings and their appurtenances that produce particulate matter emissions;
 - b) Paving or frequent cleaning of roads, driveways and parking lots;
 - c) Application of dust-free surfaces;
 - d) Application of water; and
 - e) Planting and maintenance of vegetative ground cover.

10 CSR 10-6.180 Measurement of Emissions of Air Contaminants

- 1) The director may require any person responsible for the source of emission of air contaminants to make or have made tests to determine the quantity or nature, or both, of emission of air contaminants from the source. The director may specify testing methods to be used in accordance with good professional practice. The director may observe the testing. All tests shall be performed by qualified personnel.
- 2) The director may conduct tests of emissions of air contaminants from any source. Upon request of the director, the person responsible for the source to be tested shall provide necessary ports in stacks or ducts and other safe and proper sampling and testing facilities, exclusive of instruments and sensing devices as may be necessary for proper determination of the emission of air contaminants.
- 3) The director shall be given a copy of the test results in writing and signed by the person responsible for the tests.

10 CSR 10-6.165 Restriction of Emission of Odors

This requirement is not federally enforceable.

No person may cause, permit or allow the emission of odorous matter in concentrations and frequencies or for durations that odor can be perceived when one volume of odorous air is diluted with seven volumes of odor-free air for two separate trials not less than 15 minutes apart within the period of one hour. This odor evaluation shall be taken at a location outside of the installation's property boundary.

10 CSR 10-6.250 Asbestos Abatement Projects – Certification, Accreditation, and Business Exemption Requirements

The permittee shall conduct all asbestos abatement projects within the procedures established for certification and accreditation by 10 CSR 10-6.250. This rule requires individuals who work in asbestos abatement projects to be certified by the Missouri Department of Natural Resources Air Pollution

Control Program. This rule requires training providers who offer training for asbestos abatement occupations to be accredited by the Missouri Department of Natural Resources Air Pollution Control Program. This rule requires persons who hold exemption status from certain requirements of this rule to allow the department to monitor training provided to employees. Each individual who works in asbestos abatement projects must first obtain certification for the appropriate occupation from the department. Each person who offers training for asbestos abatement occupations must first obtain accreditation from the department. Certain business entities that meet the requirements for state-approved exemption status must allow the department to monitor training classes provided to employees who perform asbestos abatement.

Title VI – 40 CFR Part 82 Protection of Stratospheric Ozone

- 1) The permittee shall comply with the standards for labeling of products using ozone-depleting substances pursuant to 40 CFR Part 82, Subpart E:
 - a) All containers in which a class I or class II substance is stored or transported, all products containing a class I substance, and all products directly manufactured with a class I substance must bear the required warning statement if it is being introduced into interstate commerce pursuant to §82.106.
 - b) The placement of the required warning statement must comply with the requirements pursuant to §82.108.
 - c) The form of the label bearing the required warning statement must comply with the requirements pursuant to §82.110.
 - d) No person may modify, remove, or interfere with the required warning statement except as described in §82.112.
- 2) The permittee shall comply with the standards for recycling and emissions reduction pursuant to 40 CFR Part 82, Subpart F, except as provided for motor vehicle air conditioners (MVACs) in Subpart B:
 - a) Persons opening appliances for maintenance, service, repair, or disposal must comply with the required practices pursuant to §82.156.
 - b) Equipment used during the maintenance, service, repair, or disposal of appliances must comply with the standards for recycling and recovery equipment pursuant to §82.158.
 - c) Persons performing maintenance, service, repair, or disposal of appliances must be certified by an approved technician certification program pursuant to §82.161.
 - d) Persons disposing of small appliances, MVACs, and MVAC-like appliances must comply with record keeping requirements pursuant to §82.166. ("MVAC-like" appliance as defined at §82.152).
 - e) Persons owning commercial or industrial process refrigeration equipment must comply with the leak repair requirements pursuant to §82.156.
 - f) Owners/operators of appliances normally containing 50 or more pounds of refrigerant must keep records of refrigerant purchased and added to such appliances pursuant to §82.166.
- 3) If the permittee manufactures, transforms, imports, or exports a class I or class II substance, the permittee is subject to all the requirements as specified in 40 CFR part 82, Subpart A, Production and Consumption Controls.
- 4) If the permittee performs a service on motor (fleet) vehicles when this service involves ozone-depleting substance refrigerant (or regulated substitute substance) in the motor vehicle air conditioner (MVAC), the permittee is subject to all the applicable requirements as specified in 40 CFR part 82, Subpart B, Servicing of Motor Vehicle Air conditioners. The term "motor vehicle" as used in Subpart B does not include a vehicle in which final assembly of the vehicle has not been

completed. The term "MVAC" as used in Subpart B does not include the air-tight sealed refrigeration system used as refrigerated cargo, or system used on passenger buses using HCFC-22 refrigerant.

- 5) The permittee shall be allowed to switch from any ozone-depleting substance to any alternative that is listed in the Significant New Alternatives Program (SNAP) promulgated pursuant to 40 CFR part 82, Subpart G, Significant New Alternatives Policy Program. *Federal Only - 40 CFR part 82*

10 CSR 10-6.280 Compliance Monitoring Usage

- 1) The permittee is not prohibited from using the following in addition to any specified compliance methods for the purpose of submission of compliance certificates:
- a) Monitoring methods outlined in 40 CFR Part 64;
 - b) Monitoring method(s) approved for the permittee pursuant to 10 CSR 10-6.065, "Operating Permits", and incorporated into an operating permit; and
 - c) Any other monitoring methods approved by the director.
- 2) Any credible evidence may be used for the purpose of establishing whether a permittee has violated or is in violation of any such plan or other applicable requirement. Information from the use of the following methods is presumptively credible evidence of whether a violation has occurred by a permittee:
- a) Monitoring methods outlined in 40 CFR Part 64;
 - b) A monitoring method approved for the permittee pursuant to 10 CSR 10-6.065, "Operating Permits", and incorporated into an operating permit; and
 - c) Compliance test methods specified in the rule cited as the authority for the emission limitations.
- 3) The following testing, monitoring or information gathering methods are presumptively credible testing, monitoring, or information gathering methods:
- a) Applicable monitoring or testing methods, cited in:
 - i) 10 CSR 10-6.030, "Sampling Methods for Air Pollution Sources";
 - ii) 10 CSR 10-6.040, "Reference Methods";
 - iii) 10 CSR 10-6.070, "New Source Performance Standards";
 - iv) 10 CSR 10-6.080, "Emission Standards for Hazardous Air Pollutants"; or
 - b) Other testing, monitoring, or information gathering methods, if approved by the director, that produce information comparable to that produced by any method listed above.

V. General Permit Requirements

The installation shall comply with each of the following requirements. Consult the appropriate sections in the Code of Federal Regulations (CFR) and Code of State Regulations (CSR) for the full text of the applicable requirements. All citations, unless otherwise noted, are to the regulations in effect as of the date that this permit is issued,

10 CSR 10-6.065(6)(C)1.B Permit Duration

This permit is issued for a term of five years, commencing on the date of issuance. This permit will expire at the end of this period unless renewed.

10 CSR 10-6.065(6)(C)1.C General Record Keeping and Reporting Requirements

1) Record Keeping

- a) All required monitoring data and support information shall be retained for a period of at least five years from the date of the monitoring sample, measurement, report or application.
- b) Copies of all current operating and construction permits issued to this installation shall be kept on-site for as long as the permits are in effect. Copies of these permits shall be made immediately available to any Missouri Department of Natural Resources' personnel upon request.

2) Reporting

- a) All reports shall be submitted to the Air Pollution Control Program, Enforcement Section, P. O. Box 176, Jefferson City, MO 65102.
- b) The permittee shall submit a report of all required monitoring by:
 - i) October 1st for monitoring which covers the January through June time period, and
 - ii) April 1st for monitoring which covers the July through December time period.
 - iii) Exception. Monitoring requirements which require reporting more frequently than semiannually shall report no later than 30 days after the end of the calendar quarter in which the measurements were taken.
- c) Each report shall identify any deviations from emission limitations, monitoring, record keeping, reporting, or any other requirements of the permit, this includes deviations or Part 64 exceedances.
- d) Submit supplemental reports as required or as needed. Supplemental reports are required no later than ten days after any exceedance of any applicable rule, regulation or other restriction. All reports of deviations shall identify the cause or probable cause of the deviations and any corrective actions or preventative measures taken.
 - i) Notice of any deviation resulting from an emergency (or upset) condition as defined in paragraph (6)(C)7.A of 10 CSR 10-6.065 (Emergency Provisions) shall be submitted to the permitting authority either verbally or in writing within two working days after the date on which the emission limitation is exceeded due to the emergency, if the permittee wishes to assert an affirmative defense. The affirmative defense of emergency shall be demonstrated through properly signed, contemporaneous operating logs, or other relevant evidence that indicate an emergency occurred and the permittee can identify the cause(s) of the emergency. The permitted installation must show that it was operated properly at the time and that during the period of the emergency the permittee took all reasonable steps to minimize levels of emissions that exceeded the emission standards or requirements in the permit. The notice must contain a description of the emergency, the steps taken to mitigate emissions, and the corrective actions taken.
 - ii) Any deviation that poses an imminent and substantial danger to public health, safety or the environment shall be reported as soon as practicable.

- iii) Any other deviations identified in the permit as requiring more frequent reporting than the permittee's semiannual report shall be reported on the schedule specified in this permit, and no later than ten days after any exceedance of any applicable rule, regulation, or other restriction.
- e) Every report submitted shall be certified by the responsible official, except that, if a report of a deviation must be submitted within ten days after the deviation, the report may be submitted without a certification if the report is resubmitted with an appropriate certification within ten days after that, together with any corrected or supplemental information required concerning the deviation.
- f) The permittee may request confidential treatment of information submitted in any report of deviation.

10 CSR 10-6.065(6)(C)1.D Risk Management Plan Under Section 112(r)

The permittee shall comply with the requirements of 40 CFR Part 68, Accidental Release Prevention Requirements. If the permittee has more than a threshold quantity of a regulated substance in process, as determined by 40 CFR Section 68.115, the permittee shall submit a Risk Management Plan in accordance with 40 CFR Part 68 no later than the latest of the following dates:

- 1) June 21, 1999;
- 2) Three years after the date on which a regulated substance is first listed under 40 CFR Section 68.130; or
- 3) The date on which a regulated substance is first present above a threshold quantity in a process.

10 CSR 10-6.065(6)(C)1.F Severability Clause

In the event of a successful challenge to any part of this permit, all uncontested permit conditions shall continue to be in force. All terms and conditions of this permit remain in effect pending any administrative or judicial challenge to any portion of the permit. If any provision of this permit is invalidated, the permittee shall comply with all other provisions of the permit.

10 CSR 10-6.065(6)(C)1.G General Requirements

- 1) The permittee must comply with all of the terms and conditions of this permit. Any noncompliance with a permit condition constitutes a violation and is grounds for enforcement action, permit termination, permit revocation and re-issuance, permit modification or denial of a permit renewal application.
- 2) The permittee may not use as a defense in an enforcement action that it would have been necessary for the permittee to halt or reduce the permitted activity in order to maintain compliance with the conditions of the permit
- 3) The permit may be modified, revoked, reopened, reissued or terminated for cause. Except as provided for minor permit modifications, the filing of an application or request for a permit modification, revocation and reissuance, or termination, or the filing of a notification of planned changes or anticipated noncompliance, does not stay any permit condition.
- 4) This permit does not convey any property rights of any sort, nor grant any exclusive privilege.
- 5) The permittee shall furnish to the Air Pollution Control Program, upon receipt of a written request and within a reasonable time, any information that the Air Pollution Control Program reasonably may require to determine whether cause exists for modifying, reopening, reissuing or revoking the permit or to determine compliance with the permit. Upon request, the permittee also shall furnish to the Air Pollution Control Program copies of records required to be kept by the permittee. The

permittee may make a claim of confidentiality for any information or records submitted pursuant to 10 CSR 10-6.065(6)(C)1.

10 CSR 10-6.065(6)(C)1.H Incentive Programs Not Requiring Permit Revisions

No permit revision will be required for any installation changes made under any approved economic incentive, marketable permit, emissions trading, or other similar programs or processes provided for in this permit.

10 CSR 10-6.065(6)(C)1.I Reasonably Anticipated Operating Scenarios

None.

10 CSR 10-6.065(6)(C)3 Compliance Requirements

- 1) Any document (including reports) required to be submitted under this permit shall contain a certification signed by the responsible official.
- 2) Upon presentation of credentials and other documents as may be required by law, the permittee shall allow authorized officials of the Missouri Department of Natural Resources, or their authorized agents, to perform the following (subject to the installation's right to seek confidential treatment of information submitted to, or obtained by, the Air Pollution Control Program):
 - a) Enter upon the premises where a permitted installation is located or an emissions-related activity is conducted, or where records must be kept under the conditions of this permit;
 - b) Have access to and copy, at reasonable times, any records that must be kept under the conditions of this permit;
 - c) Inspect, at reasonable times and using reasonable safety practices, any facilities, equipment (including monitoring and air pollution control equipment), practices, or operations regulated or required under this permit; and
 - d) As authorized by the Missouri Air Conservation Law, Chapter 643, RSMo or the Act, sample or monitor, at reasonable times, substances or parameters for the purpose of assuring compliance with the terms of this permit, and all applicable requirements as outlined in this permit.
- 3) All progress reports required under an applicable schedule of compliance shall be submitted semiannually (or more frequently if specified in the applicable requirement). These progress reports shall contain the following:
 - a) Dates for achieving the activities, milestones or compliance required in the schedule of compliance, and dates when these activities, milestones or compliance were achieved, and
 - b) An explanation of why any dates in the schedule of compliance were not or will not be met, and any preventative or corrective measures adopted.
- 4) The permittee shall submit an annual certification that it is in compliance with all of the federally enforceable terms and conditions contained in this permit, including emissions limitations, standards, or work practices. These certifications shall be submitted annually by April 1st, unless the applicable requirement specifies more frequent submission. These certifications shall be submitted to EPA Region VII, 901 North 5th Street, Kansas City, Kansas 66101, as well as the Air Pollution Control Program, Enforcement Section, P.O. Box 176, Jefferson City, MO 65102. All deviations and Part 64 exceedances and excursions must be included in the compliance certifications. The compliance certification shall include the following:
 - a) The identification of each term or condition of the permit that is the basis of the certification;
 - b) The current compliance status, as shown by monitoring data and other information reasonably available to the installation;
 - c) Whether compliance was continuous or intermittent;

- d) The method(s) used for determining the compliance status of the installation, both currently and over the reporting period; and
- e) Such other facts as the Air Pollution Control Program will require in order to determine the compliance status of this installation.

10 CSR 10-6.065(6)(C)6 Permit Shield

- 1) Compliance with the conditions of this permit shall be deemed compliance with all applicable requirements as of the date that this permit is issued, provided that:
 - a) The applicable requirements are included and specifically identified in this permit, or
 - b) The permitting authority, in acting on the permit revision or permit application, determines in writing that other requirements, as specifically identified in the permit, are not applicable to the installation, and this permit expressly includes that determination or a concise summary of it.
- 2) Be aware that there are exceptions to this permit protection. The permit shield does not affect the following:
 - a) The provisions of section 303 of the Act or section 643.090, RSMo concerning emergency orders,
 - b) Liability for any violation of an applicable requirement which occurred prior to, or was existing at, the time of permit issuance,
 - c) The applicable requirements of the acid rain program,
 - d) The authority of the Environmental Protection Agency and the Air Pollution Control Program of the Missouri Department of Natural Resources to obtain information, or
 - e) Any other permit or extra-permit provisions, terms or conditions expressly excluded from the permit shield provisions.

10 CSR 10-6.065(6)(C)7 Emergency Provisions

- 1) An emergency or upset as defined in 10 CSR 10-6.065(6)(C)7.A shall constitute an affirmative defense to an enforcement action brought for noncompliance with technology-based emissions limitations. To establish an emergency- or upset-based defense, the permittee must demonstrate, through properly signed, contemporaneous operating logs or other relevant evidence, the following:
 - a) That an emergency or upset occurred and that the permittee can identify the source of the emergency or upset,
 - b) That the installation was being operated properly,
 - c) That the permittee took all reasonable steps to minimize emissions that exceeded technology-based emissions limitations or requirements in this permit, and
 - d) That the permittee submitted notice of the emergency to the Air Pollution Control Program within two working days of the time when emission limitations were exceeded due to the emergency. This notice must contain a description of the emergency, any steps taken to mitigate emissions, and any corrective actions taken.
- 2) Be aware that an emergency or upset shall not include noncompliance caused by improperly designed equipment, lack of preventative maintenance, careless or improper operation, or operator error.

10 CSR 10-6.065(6)(C)8 Operational Flexibility

An installation that has been issued a Part 70 operating permit is not required to apply for or obtain a permit revision in order to make any of the changes to the permitted installation described below if the changes are not Title I modifications, the changes do not cause emissions to exceed emissions allowable under the permit, and the changes do not result in the emission of any air contaminant not previously

emitted. The permittee shall notify the Air Pollution Control Program, Enforcement Section, P.O. Box 176, Jefferson City, MO 65102, as well as EPA Region VII, 901 North 5th Street, Kansas City, Kansas 66101, at least seven days in advance of these changes, except as allowed for emergency or upset conditions. Emissions allowable under the permit means a federally enforceable permit term or condition determined at issuance to be required by an applicable requirement that establishes an emissions limit (including a work practice standard) or a federally enforceable emissions cap that the source has assumed to avoid an applicable requirement to which the source would otherwise be subject.

- 1) Section 502(b)(10) changes. Changes that, under section 502(b)(10) of the Act, contravene an express permit term may be made without a permit revision, except for changes that would violate applicable requirements of the Act or contravene federally enforceable monitoring (including test methods), record keeping, reporting or compliance requirements of the permit.
 - a) Before making a change under this provision, The permittee shall provide advance written notice to the Air Pollution Control Program, Enforcement Section, P.O. Box 176, Jefferson City, MO 65102, as well as EPA Region VII, 901 North 5th Street, Kansas City, Kansas 66101, describing the changes to be made, the date on which the change will occur, and any changes in emission and any permit terms and conditions that are affected. The permittee shall maintain a copy of the notice with the permit, and the APCP shall place a copy with the permit in the public file. Written notice shall be provided to the EPA and the APCP as above at least seven days before the change is to be made. If less than seven days notice is provided because of a need to respond more quickly to these unanticipated conditions, the permittee shall provide notice to the EPA and the APCP as soon as possible after learning of the need to make the change.
 - b) The permit shield shall not apply to these changes.

10 CSR 10-6.065(6)(C)9 Off-Permit Changes

- 1) Except as noted below, the permittee may make any change in its permitted operations, activities or emissions that is not addressed in, constrained by or prohibited by this permit without obtaining a permit revision. Insignificant activities listed in the application, but not otherwise addressed in or prohibited by this permit, shall not be considered to be constrained by this permit for purposes of the off-permit provisions of this section. Off-permit changes shall be subject to the following requirements and restrictions:
 - a) The change must meet all applicable requirements of the Act and may not violate any existing permit term or condition; the permittee may not change a permitted installation without a permit revision if this change is subject to any requirements under Title IV of the Act or is a Title I modification;
 - b) The permittee must provide written notice of the change to the Air Pollution Control Program, Enforcement Section, P.O. Box 176, Jefferson City, MO 65102, as well as EPA Region VII, 901 North 5th Street, Kansas City, Kansas 66101, no later than the next annual emissions report. This notice shall not be required for changes that are insignificant activities under 10 CSR 10-6.065(6)(B)3. This written notice shall describe each change, including the date, any change in emissions, pollutants emitted and any applicable requirement that would apply as a result of the change.
 - c) The permittee shall keep a record describing all changes made at the installation that result in emissions of a regulated air pollutant subject to an applicable requirement and the emissions resulting from these changes; and
 - d) The permit shield shall not apply to these changes.

10 CSR 10-6.020(2)(R)12 Responsible Official

The application utilized in the preparation of this permit was signed by Michael Schalk, Corporate Secretary. If this person terminates employment, or is reassigned different duties such that a different person becomes the responsible person to represent and bind the installation in environmental permitting affairs, the owner or operator of this air contaminant source shall notify the Director of the Air Pollution Control Program of the change. Said notification shall be in writing and shall be submitted within 30 days of the change. The notification shall include the name and title of the new person assigned by the source owner or operator to represent and bind the installation in environmental permitting affairs. All representations, agreement to terms and conditions and covenants made by the former responsible person that were used in the establishment of limiting permit conditions on this permit will continue to be binding on the installation until such time that a revision to this permit is obtained that would change said representations, agreements and covenants.

10 CSR 10-6.065(6)(E)6 Reopening-Permit for Cause

This permit may be reopened for cause if:

- 1) The Missouri Department of Natural Resources (MDNR) receives notice from the Environmental Protection Agency (EPA) that a petition for disapproval of a permit pursuant to 40 CFR § 70.8(d) has been granted, provided that the reopening may be stayed pending judicial review of that determination,
- 2) MDNR or EPA determines that the permit contains a material mistake or that inaccurate statements were made which resulted in establishing the emissions limitation standards or other terms of the permit,
- 3) Additional applicable requirements under the Act become applicable to the installation; however, reopening on this ground is not required if—:
 - a) The permit has a remaining term of less than three years;
 - b) The effective date of the requirement is later than the date on which the permit is due to expire;or
 - c) The additional applicable requirements are implemented in a general permit that is applicable to the installation and the installation receives authorization for coverage under that general permit,
- 4) The installation is an affected source under the acid rain program and additional requirements (including excess emissions requirements), become applicable to that source, provided that, upon approval by EPA, excess emissions offset plans shall be deemed to be incorporated into the permit; or
- 5) MDNR or EPA determines that the permit must be reopened and revised to assure compliance with applicable requirements.

10 CSR 10-6.065(6)(E)1.C Statement of Basis

This permit is accompanied by a statement setting forth the legal and factual basis for the permit conditions (including references to applicable statutory or regulatory provisions). This Statement of Basis, while referenced by the permit, is not an actual part of the permit.

VI. Attachments

Attachments follow.

Attachment A

Compliance Assurance Monitoring Plan (CAM) for Rotary Kiln Controlled by ESP

Harbison-Walker Refractories Fulton, MO (APCP Id. No. 027-0001) CAM Monitoring Approach for Particulate Matter Emissions Controlled by ESP From Emission Unit E0001 Rotary Kiln	
Indicator	ESP primary voltage and current are measure for each field to determine the power to the ESP.
Measurement Approach	The primary voltage is measured using a voltmeter and the primary current/precipitator current are measured using an ammeter.
Indicator Range	Voltage range: A side 100-400, B side 120-400. Current ranges are Primary Current: A side 10-87 amps, B side 20-87 amps; Precipitator Current: A side 120-550 milliamps, B side 150-550 milliamps.
	An excursion is defined as an ESP reading out of the listed ranges. Excursions trigger a Method 22 inspection, corrective action, and a reporting requirement if visuals require performance of a method 9 inspection.
QIP Threshold	The QIP threshold for any individual emission unit is 9 excursions in a 6-month reporting period. If an emission unit reaches the QIP threshold, the permittee shall submit a QIP for that unit along with the Semiannual Monitoring Report for that reporting period.
Performance Criteria	
Data Representativeness	The voltage and current are measured using the instrumentation the manufacturer provided with the ESP.
Verification of Operational Status	NA
QA/QC Practices and Criteria	Confirm the meters read zero when the unit is not operating.
Monitoring Frequency	The primary voltage and current are recorded two times per shift or approximately every four hours when the unit is operating.
Data Collection Procedure	The primary voltage and current are recorded manually.
Averaging Period	N/A
Reporting	Summary information on the number, duration, and cause for any excursions will be reported on a semiannual basis in the Semiannual Monitoring Report for the Part 70 Operating Permit.

Attachment B

Compliance Assurance Monitoring Plan (CAM) for Rotary Cooler Controlled by Dust Collector

Harbison-Walker Refractories Fulton, MO (APCP Id. No. 027-0001) CAM Monitoring Approach for Particulate Matter Emissions Controlled by Dust Collector Filter System From Emission Unit E0030 Rotary Cooler		
	Indicator #1	Indicator #2
Indicator	Visible Emissions	Pressure Drop
Measurement Approach	Visible emissions from each baghouse exhaust shall be monitored using EPA Reference Method 22-like procedures.	Pressure drop across each baghouse shall be measured with a differential pressure gauge.
Indicator Range	The indicator range is defined as no visible emissions. An excursion is defined as the presence of visible emissions.	The indicator range is defined as a pressure drop between 1 and 7 inches of water column (in H ₂ O). An excursion is defined as a pressure drop that is less than 1 in H ₂ O and/or greater than 7 inches H ₂ O.
	An excursion of either indicator constitutes an excursion. If visible emissions are present when the pressure drop is within its specified indicator range, the pressure drop indicator range shall be re-evaluated by the permittee. Excursions trigger an inspection, corrective action, and need to be reported in the next Semiannual Monitoring Report. Excursions shall be corrected immediately upon detection; if an excursion results in excess emissions exceeding 1 hour, the permittee may elect to file a startup, shutdown, and malfunction assertion under 10 CSR 10-6.050 if appropriate to the situation.	
QIP Threshold	The QIP threshold for any individual emission unit is 9 excursions in a 6-month reporting period. If an emission unit reaches the QIP threshold, the permittee shall submit a QIP for that unit along with the Semiannual Monitoring Report for that reporting period.	
Performance Criteria		
Data Representativeness	Measurements shall be made at the emission point (i.e., baghouse exhaust).	Pressure drop taps are located at the inlet and outlet of each baghouse. The differential pressure gauges have a minimum accuracy of 0.25 in H ₂ O.
Verification of Operational Status	NA	Pressure drop taps are checked for plugging quarterly or upon reasonable suspicion of gauge malfunction.
QA/QC Practices and Criteria	The visible emissions observer shall be familiar with EPA Reference Method 22 and follow Method 22-like procedures.	The differential pressure gauges shall be calibrated no less frequently than semiannually in accordance with the manufacturer's specifications.
Monitoring Frequency	Method 22-like observation shall be performed daily.	Daily.
Data Collection Procedure	The VE observation is manually recorded (i.e., documented) daily by the observer.	An instantaneous measurement shall be manually recorded daily.
Averaging Period	NA	None
Reporting	Summary information on the number, duration, and cause for any excursions will be reported on a semiannual basis in the Semiannual Monitoring Report for the Part 70 Operating Permit.	

Attachment C

Monthly PM₁₀ Emission Tracking Record (E0051 and E0053)

This worksheet covers the period from _____ to _____
 (month/year) (month/year)

Column A	Column B	Column C	Column D
Emission Unit	Amount of Material Processed (ton)	PM ₁₀ Emission Factor ¹ (lb/ton)	Process PM ₁₀ Emissions ² (ton)
E0051			
E0053			
Total PM ₁₀ Calculated for the Current Month			
12-Month PM ₁₀ Emissions Total from Previous Month's Total			
Monthly PM ₁₀ Emissions Total from Previous Year's Worksheet			
Current 12-Month Total PM ₁₀ Emissions ³			

Note:

1. Emission factors will be determined by stack tests. All emission factors include control device efficiency.
2. Column D = [Column B] X [Column C] X [0.0005]
3. [Current months emissions] + [last 12-month emissions] – [emissions from the same month last year]
 Total of less than 14.7 tons indicates compliance

Attachment E

Method 9 Opacity Emissions Observations

Method 9 Opacity Emissions Observations	
Company	Observer
Location	Observer Certification Date
Date	Emission Unit
Time	Control Device

Hour	Minute	Seconds				Steam Plume (check if applicable)		Comments
		0	15	30	45	Attached	Detached	
	0							
	1							
	2							
	3							
	4							
	5							
	6							
	7							
	8							
	9							
	10							
	11							
	12							
	13							
	14							
	15							
	16							
	17							
	18							

SUMMARY OF AVERAGE OPACITY				
Set Number	Time		Opacity	
	Start	End	Sum	Average

Readings ranged from _____ to _____ % opacity.

Was the emission unit in compliance at the time of evaluation? _____

YES NO

Signature of Observer

STATEMENT OF BASIS

Permit Reference Documents

These documents were relied upon in the preparation of the operating permit. Because they are not incorporated by reference, they are not an official part of the operating permit.

- 1) Part 70 Operating Permit Application, received May 21, 2004;
- 2) 2013 Emissions Inventory Questionnaire, received March 10, 2014;
- 3) U.S. EPA document AP-42, Compilation of Air Pollutant Emission Factors; Volume I, Stationary Point and Area Sources, Fifth Edition; and
- 4) Randolph, R. (MDNR) letter to North American Refractories Co., dated July 9, 1996.

Historical Notes

The following historical notes explain the changes in this renewal-operating permit as compared to operating permit OP1999-171.

- 1) Rotary Kiln (E0001) does not use Fuel Oil #2 but uses natural gas exclusively. The two 420,000-gallon #2 fuel oil storage tanks have been removed from the installation.
- 2) The two belt conveyors, which were identified as EU0040 (E-0052) in OP1999171, were never installed. Therefore, this equipment is not included in the operating permit.
- 3) The 1,000-gallon propane storage tank (E-0037) has been removed from the installation.

Applicable Requirements Included in the Operating Permit but Not in the Application or Previous Operating Permits

In the operating permit application, the installation indicated they were not subject to the following regulation(s). However, in the review of the application, the agency has determined that the installation is subject to the following regulation(s) for the reasons stated.

None

Other Air Regulations Determined Not to Apply to the Operating Permit

The Air Pollution Control Program (APCP) has determined the following requirements to not be applicable to this installation at this time for the reasons stated.

- 1) 10 CSR 10-6.100, *Alternate Emission Limits*
This rule is not applicable because the installation is in an ozone attainment area.
- 2) 10 CSR 10-6.260, *Restriction of Emission of Sulfur Compounds*
This rule does not apply to the Rotary Kiln (E0001) because this unit uses exclusively pipeline grade natural gas and according to paragraph (1)(A)2 of this rule, combustion equipment that uses exclusively pipeline grade natural gas as defined by American Society for Testing and Materials (ASTM) is exempt.

Construction Permit Revisions

The following revisions were made to construction permits for this installation:

- 1) MDNR Construction Permit No. 0992-018 authorized the installation of a lo-cement castables process. This equipment has been permanently shut down. Therefore, the conditions associated with this construction permit are not included in the operating permit.
- 2) MDNR Construction Permit No. 0399-002 authorized the installation of a crushing, screening, and conveying system (E-0051 and E-0052)
 - a) The two belt conveyors, which were to be vented to the Micropulse #165-8-3 baghouse, were never installed. Therefore this equipment, which was identified as EU0040 (E-0052) in OP1999171, is not included in the operating permit.
 - b) Special Condition No. 1, which limits the emissions of PM₁₀ to less than 14.7 tons per year, was revised in operating permit OP1999171 to include emission point E-0053.
 - c) Special Conditions Nos. 4, 5, 6, and 7 are regarding performance testing that was to be completed within 180 days after initial startup of new equipment. Since the performance testing has been completed, these special conditions are not included in the operating permit.
 - d) This construction permit misstated that New Source Performance Standards (NSPS) does not apply to the crushing, screening and conveying system. Since the crushing, screening and conveying system was constructed after the Subpart OOO applicability date (August 31, 1983), this equipment is subject to Subpart OOO. Permit Condition E0051-002 and E0053-002 contain the applicable provisions of Subpart OOO.
- 3) MDNR Construction Permit No. 032001-002 authorized the construction of a portable crusher and related equipment. The equipment, which was never operated, has been removed from the facility. Therefore, this equipment is not included in the operating permit.

New Source Performance Standards (NSPS) Applicability

- 1) 40 CFR Part 60 Subpart K, *Standards of Performance for Storage Vessels for Petroleum Liquids For Which Construction, Reconstruction, or Modification Commenced After June 11, 1973, and Prior To May 19, 1978*

40 CFR Part 60 Subpart Ka, *Standards of Performance for Storage Vessels for Petroleum Liquids for Which Construction, Reconstruction, or Modification Commenced After May 18, 1978, and Prior to July 23, 1984*

40 CFR Part 60 Subpart Kb, *Standards of Performance for Volatile Organic Liquid Storage Vessels (Including Petroleum Liquid Storage Vessels) for Which Construction, Reconstruction, or Modification Commenced After July 23, 1984*

These rules do not apply to gasoline storage tank (E-0035) or the diesel fuel storage tank (E-0036) because their capacities are below regulatory thresholds.

- 2) 40 CFR Part 60 Subpart OOO, *Standards of Performance for Nonmetallic Mineral Processing Plants*

E0051 and E0053 are subject to this rule. The performance tests required by §60.8 were completed in February 2000.

3) 40 CFR Part 60 Subpart UUU, *Standards of Performance for Calciners and Dryers in Mineral Industries*

This rule does not apply to the Rotary Kiln (E0001) because the equipment was constructed prior to the applicability date (April 23, 1986).

None of the other NSPS standards applies.

Maximum Achievable Control Technology (MACT) Applicability

1) 40 CFR Part 63, Subpart SSSSS - *National Emission Standards for Hazardous Air Pollutants for Refractory Products Manufacturing*

The provisions of this subpart apply to a refractory products manufacturing facility that is, is located at, or is part of, a major source of hazardous air pollutant (HAP) emissions according to the following criteria of §63.9782 of Subpart SSSSS:

- A refractory products manufacturing facility is a plant site that manufactures refractory products (refractory bricks, refractory shapes, monolithics, kiln furniture, crucibles, and other materials used for lining furnaces and other high temperature process units), as defined in §63.9824.
- A major source of HAP is a plant site that emits or has the potential to emit any single HAP at a rate 10 tons or more per year or any combination of HAP at a rate of 25 tons or more per year.

The Harbison Walker – Fulton Plant is a refractory raw materials manufacturing plant but does not manufacture refractory products as defined in §63.9824, therefore the installation is not subject to this subpart.

2) 40 CFR Part 63, Subpart RRRRRR - *National Emission Standards for Hazardous Air Pollutants for Area Sources: Clay Ceramics Manufacturing, Glass Manufacturing, and Secondary Nonferrous Metals Processing*

This rule applies to area source clay ceramics manufacturing facilities using more than 50 tons per year of wet clay with atomized spray glazing and/or a kiln firing glazed ceramic ware. Includes facilities that manufacture pressed tile, sanitaryware, dinnerware, or pottery. The Harbison Walker – Fulton Plant is not a clay ceramics manufacturing facility (as defined in §63.11444 of this subpart), therefore the installation is not subject to this subpart.

National Emission Standards for Hazardous Air Pollutants (NESHAP) Applicability

40 CFR Part 61 Subpart M, *National Emission Standard for Asbestos*, §61.145(a), Standard for demolition and renovation, applies to the installation.

This regulation has been included in the operating permit because it applies to any demolition or renovation (as outlined in 40 CFR 61.145) of buildings containing asbestos at the installation.

Compliance Assurance Monitoring (CAM) Applicability

40 CFR Part 64, *Compliance Assurance Monitoring (CAM)*

The CAM rule applies to each pollutant specific emission unit that:

- Is subject to an emission limitation or standard, and
- Uses a control device to achieve compliance, and
- Has pre-control emissions that exceed or are equivalent to the major source threshold.

The CAM rule applies to the Rotary Kiln (E0001) and Rotary Cooler (E0030). The permittee submitted Compliance Assurance Monitoring Plans which have been incorporated into Permit Condition E0001-001 and E0030-001 and are contained in Attachments A and B.

The Harbison-Walker Fulton Rotary Kiln recently replaced the electrical controllers on the ESP for the Rotary Kiln before the Kiln was started up for a production run on November 4th, 2014. During this run, the company noticed the readings required by the CAM Plan in the draft permit were at times outside of those CAM Plan Limits. The limitations established in the CAM Plan submittal used historic voltage and amp values from previous kiln runs with the old controller.

Harbison-Walker requested to revise the CAM Plan to reflect the increased readings from the new controller. The CAM plan has been revised as requested.

Greenhouse Gas Emissions

On May 13, 2010, EPA issued the GHG Tailoring Rule which set the major source threshold for CO₂e to be 100,000 tons per year within 40 CFR Part 70. As of July 1, 2011 all Title V operating permits are required to include GHG emissions. Potential emissions of greenhouse gases (CO₂e) for this installation are calculated to be 41,317.50 tons, classifying the installation as a minor source of GHGs. There are no currently issued GHG regulations applicable to this installation. Missouri regulations do not require the installation to report CO₂e emissions in their Missouri Emissions Inventory Questionnaire; therefore, the installation’s CO₂e emissions were not included within this permit.

Updated Potential to Emit for the Installation

An updated Potential to Emit (PTE) for the installation is shown in the table below:

Pollutant	Potential to Emit (tons/yr) ¹
CO	202.60
CO ₂ e	41,317.50
NH ₃	1.08
HAPs	0.63
NO _x	322.22
PM ₁₀	25,199.12
PM ₂₅	790.32
SO _x	617.19
VOC	5.53

¹Each emission unit was evaluated at 8,760 hours of uncontrolled annual operation unless otherwise noted.

- Emissions of PM₁₀ from E0051 and E0053 combined are limited to less 14.7 tons/yr. [Construction Permit No. 0392-002]
- E0001 was given 96.8% PM₁₀ control (ESP and cyclone combined) due to the CAM requirement of Permit Condition E0001-001.
- E0030 was given 99% PM₁₀ control (baghouse) due to the CAM requirement of Permit Condition E0030-001.

Other Regulatory Determinations

- 1) 10 CSR 10-6.400, *Restriction of Emission of Particulate Matter from Industrial Processes*
 - a) 10 CSR 10-6.400 applies to the Rotary Kiln (E0001). The allowable PM emission rate (E) is calculated using the following equation:
 Allowable PM Emission Rate (lb/hr) = 4.10(P)^{0.67}
 Where: P = process weight rate in ton/hr = 21 ton/hr
 Allowable PM Emission Rate (lb/hr) = 4.10(21.0)^{0.67} = 31.53 lb/hr
 The potential PM emission rate is calculated using the following equation:

Uncontrolled PTE (lb/hr) = MHDR (ton/hr) x Emission Factor (lb/ton)

Controlled PTE (lb/hr) = MHDR (ton/hr) x Emission Factor (lb/ton) x (1-Control Efficiency (%))/100

Where:

MHDR = 21 ton/hr

Emission Factor = 13 lb/ton [1983 stack test]

Overall Control Efficiency (ESP & Cyclone) = 96.85%

Uncontrolled PTE (lb/hr) = (21 ton/hr) x (13 lb/ton) = 273 lb/hr

Controlled PTE (lb/hr) = (21 ton/hr) x (13 lb/ton) x (1-96.85/100) = 8.60 lb/hr

At maximum design rate, the uncontrolled potential PM emission rates in lbs/hr for emission unit E0001 exceeds the 10 CSR 10-6.400 limit. However, the hourly controlled emission rate is far below the regulatory limit. Since the pre-control PM emissions rate in tons per year is above the major source threshold of 100 tons per year and the ESP is required to comply with the 10 CSR 10-6.400 limit, the unit is subject to CAM. CAM plan for this unit is incorporated in the operating permit.

- b) 10 CSR 10-6.400 applies to the Rotary Cooler (E0030). The allowable PM emission rate (E) is calculated using the following equation:

Allowable PM Emission Rate (lb/hr) = $4.10(P)^{0.67}$

Where: P = process weight rate in ton/hr = 15.75 ton/hr

Allowable PM Emission Rate (lb/hr) = $4.10(15.75)^{0.67} = 26.00$ lb/hr

The potential PM emission rate is calculated using the following equation:

Uncontrolled PTE (lb/hr) = MHDR (ton/hr) x Emission Factor (lb/ton)

Controlled PTE (lb/hr) = MHDR (ton/hr) x Emission Factor (lb/ton) x (1-Control Efficiency (%))/100

Where:

MHDR = 15.75 ton/hr

Emission Factor = 61.4 lb/ton [Source: North American Refractories Co. 1996 stack test]

Overall Control Efficiency = 99.5%

Uncontrolled PTE (lb/hr) = (15.75 ton/hr) x (61.4 lb/ton) = 967.05 lb/hr

Controlled PTE (lb/hr) = (15.75 ton/hr) x (61.4 lb/ton) x (1-99.5/100) = 4.84 lb/hr

At maximum design rate, the uncontrolled potential PM emission rates in lbs/hr for emission unit E0031 exceeds the 10 CSR 10-6.400 limit. However, the hourly controlled emission rate is far below the regulatory limit. Since the pre-control PM emissions rate in tons per year is above the major source threshold of 100 tons per year and the dust control (baghouse) is required to comply with the 10 CSR 10-6.400 limit, the unit is subject to CAM. CAM plan for this unit is incorporated in the operating permit.

- c) Crushing & Screening (E0051) and Jaw Crusher (E0053) are subject to the particulate matter emission limitation requirements of this rule. However, since the PM emission limits in 40 CFR Part 60 Subpart OOO are more stringent than the state rule, the permittee is required to meet the PM emission limits of Subpart OOO.

Other Regulations Not Cited in the Operating Permit or the Above Statement of Basis

Any regulation which is not specifically listed in either the Operating Permit or in the above Statement of Basis does not appear, based on this review, to be an applicable requirement for this installation for one or more of the following reasons:

1. The specific pollutant regulated by that rule is not emitted by the installation;
2. The installation is not in the source category regulated by that rule;
3. The installation is not in the county or specific area that is regulated under the authority of that rule;
4. The installation does not contain the type of emission unit which is regulated by that rule;
5. The rule is only for administrative purposes.

Should a later determination conclude that the installation is subject to one or more of the regulations cited in this Statement of Basis or other regulations which were not cited, the installation shall determine and demonstrate, to the APCP's satisfaction, the installation's compliance with that regulation(s). If the installation is not in compliance with a regulation which was not previously cited, the installation shall submit to the APCP a schedule for achieving compliance for that regulation(s).

MEMORANDUM

TO: 2004-05-119 File, Harbison-Walker Refractories Company - Fulton Plant

FROM: Berhanu Getahun, Operating Permits Unit

SUBJECT: Response to Public Comments

There were three (3) comments received on November 14, 2012 from Mr. Bruce Hamilton of Harbison-Walker Refractories Company - Fulton Plant and five (5) comments received on November 1, 2012 from EPA Region 7. The comments are addressed by who sent them and in order as they were listed in the correspondence and are quoted verbatim.

The following comments were received on November 14, 2012 from Mr. Bruce Hamilton of Harbison-Walker Refractories Company.

Comment #1: On page 4, under Emission Units Without Limitations, Z-1: The H-W Fulton Plant has only one (1) Parts Washer; it is a Model PW20G with 20 gallon capacity.

Response to Comment: As requested, this change has been made to the draft permit.

Comment #2: On page 9, under Permit Condition E0030 Rotary Cooler - the manufacturer/Model should be Stansteel.

Response to Comment: As requested, this change has been made to the draft permit.

Comment #3: On page 13, under Permit Condition E0051-002 and E0053-002, Reporting: In previous review it was suggested that the need for performance testing should not be required because it was completed under the current permit. The performance testing requirement was removed but the reporting requirements items #1 and #2 were not removed. We see no need for, "Reporting items #1 and #2" to be in this permit if there is no performance testing required.

Response to Comment: We agree that the Reporting items #1 and #2 are no longer needed since the testing was completed in February and March of 2000 and was reported accordingly. The change has been made as requested.

The following five comments (Comment #4 through #8) were received on November 1, 2012 from EPA Region 7.

Comment #4: Emission limitation 10, emission limitation 2) and emission limitation 4) included in Permit Condition E0001-001 and Permit Condition E0030-001, in Section III. (Emission Unit Specific Limitations), place a visible emissions limit on discharges into the atmosphere "from any source." If these emission limitations apply to "any source" as stated, then it would appear that these emission limitations are more accurately described as "Plant wide Emission Limitations" and should be included in Section II and not Section III.

Therefore, EPA recommends that MDNR develop and insert a plant wide permit condition in section II (Plant wide Emission Limitation) incorporating the visible emission limitations for "any source" pursuant to 10 CSR 10-6.220.

Response to Comment: The wording "any source" in Permit Condition E0001-001 and Permit Condition E0030-001 were directly taken from 10 CSR 10-6.220 with no change or worded to apply to either emission unit. Therefore, we have replaced "any source" with the specific emission unit identification and since we determined that these units only are subject to 10 CSR 10-6.220 and because of the following reasons the APCP has determined not to insert 10 CSR 10-6.220 as a plant wide permit

condition.

The sources listed as units without limitation are fugitive sources that do not emit regulated pollutants from a discrete stack or vent, combustion units with varying size, diesel fuel storage tank and parts washers.

- The fugitive sources (Haul Roads and Raw Materials and Products Stockpiles) emit particulate matter directly into the ambient air. These sources are not subject to any specific rule except 10 CSR 10-6.170 of the Core Permit Requirements section.*
- The combustion units emit only combustion products, produce less than one hundred fifty (150) pounds per day of any air contaminant and have a maximum rated capacity of less than ten (10) million British thermal units (Btus) per hour heat input by using exclusively natural gas and/or propane. The APCP has determined that units such as these are not necessary to include in the operating permit.*
- The storage tanks and parts washers do not emit particulate matter or other condensibles which would reduce the transmission of light or obscure the view of an object in the background. Since these insignificant emission units at this installation are VOC/HAP emitting sources, we have elected not to require the permittee to conduct monitoring of opacity.*

Comment #5: Permit Condition E0051-002 and Permit Condition E0053-002, in Section III (Emission Unit Specific Emission Limitations) incorporate into the operating permit the requirements of 40 CFR Part 60, Subpart OOO, Standards of Performance for Nonmetallic Mineral Processing Plants. The emission limitation requirements for particulate matter from Table 2 to subpart OOO of Part 60 have been included in the draft Part 70 operating permit. However, these permit conditions do not include the fugitive emission requirements as detailed in Table 3 to Subpart OOO of Part 60.

40 CFR 60.672 (b) requires affected facilities to meet fugitive emission limits and compliance requirements in Table 3. The requirements in Table 3 apply to fugitive emissions from affected facilities without capture systems and for fugitive emissions escaping from capture systems. The equipment description associated with emission units E0051 and E0053 indicate a capture system (baghouse is installed). Therefore, the fugitive emission requirement should be included for emissions escaping from the capture system.

Therefore, EPA recommends that MDNR include the emission limitations for fugitive emissions as required by 40 CFR 60.672 (b) and detailed in Table 3.

Response to Comment: The requirements of 40 CFR 60.672(b) have been included in Permit Condition E0051-002 and Permit Condition E0053-002 of the draft permit as recommended.

Comment #6: The Monitoring section of permit condition E0001-001 indicates that primary voltage; primary current; and precipitator current are the *CAM Compliance Indicators* and stipulates that the permittee is subject to the CAM plan contained in Attachment A. The Compliance Assurance Monitoring (CAM) Plan for particulate matter emissions controlled by electrostatic precipitator for rotary kiln E0001 (Attachment A) in the draft Part 70 operating permit identifies secondary current and voltage as indicators and shows the measurement approach requires primary voltage and primary current/precipitator current to be measured.

There appears to be a conflict with the indicators between permit condition E0001-001 and the CAM Plan in Attachment A. Therefore, EPA recommends MDNR either modify the permit condition to match the CAM Plan or modify the CAM plan to match the permit condition.

Response to Comment: The performance indicator of the CAM Plan in Attachment A is modified to reflect what is being monitored and recorded as stated in Permit Condition E0001-001 of the draft permit.

Comment #7: The reporting section of the Compliance Assurance Monitoring (CAM) Plan for the rotary kiln controlled by electrostatic precipitator (Attachment A) and the reporting section of the Compliance Assurance Monitoring (CAM) Plan for the rotary cooler controlled by dust collector (Attachment B) require "PQ Corporation" to report excursion and differential pressure gauge downtime semiannually as part of semiannual monitoring report.

First, these two (2) CAM Plans are attachments to a draft operating permit for Harbison-Walker Refractories Company and not for PQ Corporation. Second, there is no differential pressure gauge associated with the electrostatic precipitator. Therefore, EPA recommends that MDNR modify the reporting section of the CAM Plans shown as Attachments A and B to meet Harbison-Walker permit requirements.

Response to Comment: *The PQ name use was in error and has been replaced with Harbison-Walker Refractories Company. With respect to the second part of this comment, the reporting section of the CAM Plan shown in attachment is revised to as follows:*

"Summary information on the number, duration, and cause for any excursions will be reported on a semiannual basis in the Semiannual Monitoring Report for the Part 70 Operating Permit."

Comment #8: The Harbison-Walker Refractories Company draft Part 70 operating permit on public notice for review indicates that the "Responsible Official" for this facility, at the time of permit issuance, is "Corporate Secretary." 10 CSR 10-6.020 defines the "Responsible Official" to include one of the following:

- A. The president, secretary, treasurer, or vice-president of a corporation in charge of a principal business function, any other person who performs similar policy and decision-making functions for the corporation, or a duly-authorized representative of this person if the representative is responsible for the overall operation of one (1) or more manufacturing, production, or operating facilities applying for or subject to a permit and either—
 - (I) The facilities employ more than two hundred fifty (250) persons or have a gross annual sales or expenditures exceeding twenty-five (25) million dollars (in second quarter 1980 dollars); or
 - (II) The delegation of authority to this representative is approved in advance by the permitting authority;
- B. A general partner in a partnership or the proprietor in a sole proprietorship;
- C. Either a principal executive officer or ranking elected official in a municipality or state, federal, or other public agency. For the purpose of this subparagraph, a principal executive officer of a federal agency includes the chief executive officer having responsibility for the overall operations of a principal geographic unit of the agency; or
- D. The designated representative of an affected source insofar as actions, standards, requirements, or prohibitions under Title IV of the Act or the regulations promulgated under the Act is concerned and the designated representative for any other purposes under 40 CFR Part 70.

Additionally, the definition section of 40 CFR 70.2 for *Responsible official* (1)(i) states that the "Plant Manager" may sign the compliance certification as a responsible official if "The delegation of authority to such representatives is approved in advance by the permitting authority". This delegation is further clarified in the Part 70 preamble on page 32275 of the July 21, 1992 *Federal Register*. It states: In the final rule, the definition of "responsible official" has been expanded to allow for delegation of authority to a plant manager where the delegation has been approved in advance by the permitting authority. The individual referred to as Corporate Secretary does not appear anywhere in the allowance for the "Responsible Official." Therefore, EPA recommends that MDNR should include, in the statement of basis the preapproved authority for allowing the Corporate Secretary to serve as the facility "Responsible Official."

Response to Comment: *It is the programs belief that the Corporate Secretary is a functionally equivalent title for one who is in charge of a principal business function, or performs similar policy and decision-making functions for the corporation. Therefore, the draft permit was not changed as a result of this comment.*