

Fact Sheet



For Final Renewal Permitting Action Under 45CSR30 and Title V of the Clean Air Act

Permit Number: **R30-00300002-2014**
Application Received: **November 13, 2013**
Plant Identification Number: **003-00002**
Permittee: **Continental Brick Company**
Facility Name: **Martinsburg Facility**
Mailing Address: **154 Charles Town Road, Martinsburg, WV 25405**

Revised: N/A

Physical Location: Martinsburg, Berkeley County, West Virginia
UTM Coordinates: 245.4 km Easting • 4,368.7 km Northing • Zone 18
Directions: From Interstate 81 take Exit 12, travel east on State Route 9 approximately 3 miles. The facility is on the right side of State Rte. 9.

Facility Description

The Martinsburg Facility is a face brick manufacturing operation which includes quarry to final brick production and storage. It operates under SIC Code 3251. The weathered Martinsburg Shale is quarried by the use of pans, and then crushed, screened, wetted, mixed in a pug mill, vacuum extruded, trimmed and cut to form the final shape of the green face bricks. Green face bricks then pass through the warming room, dryers, and kiln to remove the moisture in a controlled manner. Fired bricks are sorted and packaged for sale. Bricks not meeting the specifications (waste bricks) are disposed on property.

This Title V permit renewal also incorporates changes requested in the application for R13-0682B and R30-00300002-2009 (MM01) which addressed fluctuations of the shale fluoride used to make bricks and the installation of a rotary sand dryer.

Emissions Summary

Plantwide Emissions Summary [Tons per Year]		
Regulated Pollutants	Potential Emissions	2012 Actual Emissions
Carbon Monoxide (CO)	88.98	13.18
Nitrogen Oxides (NO _x)	39.66	5.49
Particulate Matter (PM _{2.5})	75.19	4.61
Particulate Matter (PM ₁₀)	130.33	11.43
Total Particulate Matter (TSP)	189.88	44.96
Sulfur Dioxide (SO ₂)	122.19	21.75
Volatile Organic Compounds (VOC)	1.91	0.31

PM₁₀ is a component of TSP.

Hazardous Air Pollutants	Potential Emissions	2012 Actual Emissions
Hydrogen Fluoride (HF)	166.30	23.3
Hydrogen Chloride (HCl)	12.29	2.19

Some of the above HAPs may be counted as PM or VOCs.

This facility does not have the potential to emit equal to or greater than 100,000 tons per year of carbon dioxide equivalent (CO₂e) and 100 tons per year of greenhouse gases (GHGs) on a mass basis.

Title V Program Applicability Basis

This facility has the potential to emit 122.19 TPY of SO₂, 130.33 TPY of PM₁₀, 166.30 TPY of HF, and 12.29 TPY of HCl. Due to this facility's potential to emit over 100 tons per year of criteria pollutant, over 10 tons per year of a single HAP, and over 25 tons per year of aggregate HAPs, Continental Brick Company is required to have an operating permit pursuant to Title V of the Federal Clean Air Act as amended and 45CSR30.

Legal and Factual Basis for Permit Conditions

The State and Federally-enforceable conditions of the Title V Operating Permits are based upon the requirements of the State of West Virginia Operating Permit Rule 45CSR30 for the purposes of Title V of the Federal Clean Air Act and the underlying applicable requirements in other state and federal rules.

This facility has been found to be subject to the following applicable rules:

Federal and State:	45CSR2	Particulate Air Pollution from Combustion of Fuel in Indirect Head Exchangers.
	45CSR6	Open burning prohibited.
	45CSR7	To Prevent And Control Particulate Matter Air Pollution From Manufacturing Processes And Associated Operations
	45CSR10	To Prevent And Control Air Pollution From The Emission Of Sulfur Oxides
	45CSR11	Standby plans for emergency episodes.

45CSR13	Permits For Construction, Modification, Relocation And Operation Of Stationary Sources Of Air Pollutants, Notification Requirements, Administrative Updates, Temporary Permits, General Permits, And Procedures For Evaluation
WV Code § 22-5-4 (a) (14)	The Secretary can request any pertinent information such as annual emission inventory reporting.
45CSR30	Operating permit requirement.
45CSR34	Emission Standards For Hazardous Air Pollutants
40 C.F.R. Part 61	Asbestos inspection and removal
40 C.F.R. Part 82, Subpart F	Ozone depleting substances
State Only: 45CSR4	No objectionable odors.

Each State and Federally-enforceable condition of the Title V Operating Permit references the specific relevant requirements of 45CSR30 or the applicable requirement upon which it is based. Any condition of the Title V permit that is enforceable by the State but is not Federally-enforceable is identified in the Title V permit as such.

The Secretary's authority to require standards under 40 C.F.R. Part 60 (NSPS), 40 C.F.R. Part 61 (NESHAPs), and 40 C.F.R. Part 63 (NESHAPs MACT) is provided in West Virginia Code §§ 22-5-1 *et seq.*, 45CSR16, 45CSR34 and 45CSR30.

Active Permits/Consent Orders

Permit or Consent Order Number	Date of Issuance	Permit Determinations or Amendments That Affect the Permit (<i>if any</i>)
R13-0682B	April 4, 2014	

Conditions from this facility's Rule 13 permit(s) governing construction-related specifications and timing requirements will not be included in the Title V Operating Permit but will remain independently enforceable under the applicable Rule 13 permit(s). All other conditions from this facility's Rule 13 permit(s) governing the source's operation and compliance have been incorporated into this Title V permit in accordance with the "General Requirement Comparison Table," which may be downloaded from DAQ's website.

Determinations and Justifications

Hydrogen Fluoride Emissions

The permittee has requested a revision for hydrogen fluoride (HF) emissions from the kilns (K1E, K2E, and P-K3E). Naturally occurring fluoride is driven to HF in the kiln process. Continental samples for fluoride in both a dried brick and a fired brick (samples of the same brick). The samples are sent for testing to Clemson University's The Bishop Materials Laboratory. While some of the fluoride stays within the brick, the rest is assumed to be turned into HF in the kiln and then released. The previous samples and the current samples have all been analyzed by Clemson.

Based on available data, it was initially anticipated that the resulting HF would not exceed 902.7 micrograms per gram of materials fired on a twelve month rolling average. This was based on the available data on the fluoride content of the brick. Recently, it has been determined that the facility can exceed the

limit on a rolling twelve month basis due to reduced operations (periods where there is no operation at all). The permittee requested that the twelve month rolling average be increased to account for the fluctuation in operations. The permittee requested a new limit of 1,150 micrograms of HF per gram of material fired.

Installation of Rotary Sand Dryer

Sand is used at this facility to produce sanded bricks. Sanded bricks are bricks which have the face of the brick sanded after the bricks are formed. The extruder extrudes a line of bricks and then sand is placed on the face of the brick. The dry sand sticks to the brick and the brick is called a sanded brick. The sand has to be dry to allow it to flow from the feed hoppers and stick to the brick properly.

Currently, the facility dries the sand in an old beehive brick kiln. A load of sand is placed inside the kiln, the kiln is closed up, and natural gas burners are turned on to heat up the inside of the kiln and dry the sand.

Continental is developing a Rotary Sand Dryer (RSD) which utilizes a natural gas burner from the beehive dryer. The RSD is fed sand by shovel. The sand is heated and dried in the barrel of the RSD and discharged through the other end of the RSD. This RSD is the only new piece of equipment that has been installed since the previous Title V permitting action.

Emissions for the process are based on AP-42, Section 11.19.1, Sand and Gravel Processing and also AP-42, Section 1.4, Natural Gas Combustion (External Combustion Sources). Where the same pollutant is provided in both sections for PM and NO_x, the highest value was used between the two sections.

The RSD has been determined to be subject to the following rules:

- 45CSR2: The Rotary Sand Dryer RSD has a maximum design heat input of 1.0 MMBtu/hr and therefore is exempt from sections 4, 5, 6, 8, and 9 of this rule in accordance with the 45CSR§2-11.1. However, the RSD is subject to the visible emissions standards (10% opacity based on a six minute block average) of section 3. The permit application states that the RSD is designed to meet 10% opacity.
- 45CSR7: The RSD is a type “a” source and will be subject to the 20% opacity requirement 45CSR§7-3.1 and the particulate matter emission limit of 45CSR§7-4.1. The PM emission limit is based on the proposed process rate of 2,000 lbs/hr is 2.4 lbs/hr. The potential emission rate for PM is 1.92 lb/hr which is less stringent than the 45CSR§7-4.1 limit. The RSD will demonstrate compliance with the opacity requirement by demonstrating compliance with the more stringent opacity requirements of 45CSR2.

Removal of Emergency Generator

Continental Brick Company has indicated in their renewal application that the Emergency Generator (40S) is not operational and has requested that it be removed from this renewal. It is no longer included in the emission units table, and references to it were removed from condition 3.7.2.

Removal of Compliance Plan

Condition 3.6.1 of the previous Title V permit required Continental Brick Company to enter into a Consent Order with the WVDAQ to address its 45CSR§30-4.0 violation of not submitting a timely and complete Title V Permit application and its 45CSR§30-6.2 violation for operating without having submitted a timely and complete Title V Permit application. Continental Brick Company has entered into a Consent Order and fulfilled the requirements of that order.

Update of Case-by-Case MACT Determination Requirement

On June 18, 2007, the United States Court of Appeals for the District of Columbia Circuit issued a mandate vacating the NESHAP for Brick and Structural Products Manufacturing, “Brick MACT” (40 CFR Part 63 Subpart JJJJ). USEPA Region III has determined that 112(j) applies to facilities for which a federal standard has been vacated. Therefore the requirement to submit Part 1 and Part 2 “equivalent emission

limitation by permit” applications for case-by-case MACT determination was included in the previous Title V permit as condition 4.1.9.

With this renewal, the condition was revised to include the periodic kiln. Additionally, this permit condition was updated setting the application deadline for June 30, 2015. June 30, 2015 is when the final rule is due from the EPA.

Initial Testing of Kilns

Condition 4.3.2 requires testing to determine compliance of Kiln No.1 (K1E), Kiln No. 2 (K2E), and Periodic Kiln (P-K3E) with the particulate matter (PM) weight emission standards (in lbs/hr). This condition also requires initial tests to be conducted and completed within one hundred eighty (180) days of the effective date of this permit. This permit condition was included in this facility’s previous 2009 Title V permit. Initial testing was performed on K1E on September 1, 2009. However, testing was not performed on K2E or P-K3E because these kilns were not in operation. If these kilns ever become operational, initial testing is still required.

R13-0682B

As a result of changes made in R13-0682B, the following changes have been made within this Title V permit renewal:

- Rotary Sand Dryer (RSD) added to Emission Units Table in Section 1.1.
- Condition 4.1.10 (condition 4.1.1 of R13-0682B): emission limits were added for the RSD, and the HF emissions were revised for the kilns (K1, K2, and K3).
- Condition 4.1.11 (condition 4.1.2 of R13-0682B): the total facility emissions were updated to reflect the revised limits and addition of the RSD.
- Condition 4.1.16 (condition 4.1.7 of R13-0682B): the hydrogen fluoride emissions were increased from 902.7 micrograms of HF per gram of material fired to 1,150 micrograms (see discussion above).
- Condition 4.1.17 (condition 4.1.9 of R13-0682B): this condition was added specifying only natural gas as fuel for the RSD.
- Condition 4.1.18 (condition 4.1.10 of R13-0682B): this condition was added limiting visible emissions from the RSD to 10 percent opacity.
- Condition 4.3.5 (condition 4.2.3 of R13-0682B): this condition details monthly visible emissions testing requirements for the RSD to demonstrate compliance with condition 4.1.18.
- Condition 4.4.5 (condition 4.3.5 of R13-0682B): this condition was added in order to determine compliance with condition 4.1.10. The amount of sand processed through the rotary sand dryer shall be recorded on a monthly basis.
- Condition 4.4.6 (condition 4.3.6 of R13-0682B): this condition was added in order to determine compliance with the fuel type limitation in condition 4.1.17. This condition requires records of the fuel usage for the RSD.
- Condition 4.4.7 (condition 4.3.7 of R13-0682B): this condition was added requiring records of all testing required in condition 4.3.5.
- Condition 4.5.3 (condition 4.4.1 of R13-0682B): this condition was added requiring the permittee to report any violations of the RSD’s visible emissions requirements.

Non-Applicability Determinations

The following requirements have been determined not to be applicable to the subject facility due to the following:

- 45CSR5 --- The coal handling Operations are regulated by 45CSR7 and therefore are exempt in accordance with 45CSR§§5-2.4.b. & 2.14.

- 45CSR17 --- The facility is regulated by 45CSR7 and therefore exempt in accordance with 45 CSR§7-10.2 and 45CSR§17-6.
- 40 CFR Part 60, Subpart Y --- The coal handling facility processes less than 200 tons per day.
- 40 CFR Part 60, Subpart OOO --- Excluding existing Crusher No. 1, all the other shale processing equipment known as the grinding building commenced construction prior to August 31, 1983 and have not been reconstructed or modified. Crusher No.1 was replaced with a crusher of equal size in 2006, therefore in accordance with 40 CFR §60.670(d)(1) it is exempt from the provisions of 40 CFR§§ 60.672, 60.674, and 60.675.
- 40 CFR Part 64 --- There are no pollutant specific emissions units (PSEU) at this facility that satisfy all of the applicability criteria requirements of 40 CFR §64.2(a), i.e., that: 1) have pre-control regulated pollutant potential emissions (PTE) equal to or greater than the “major” threshold limits to be classified as a major source; 2) are subject to an emission limitation or standard and; 3) have a control device to achieve compliance with such emission limitation or standard. Therefore, the facility is not subject to the Compliance Assurance Monitoring (CAM) rule.

Request for Variances or Alternatives

None.

Insignificant Activities

Insignificant emission unit(s) and activities are identified in the Title V application.

Comment Period

Beginning Date: April 25, 2014
Ending Date: May 27, 2014

Point of Contact

All written comments should be addressed to the following individual and office:

Rex Compston, P.E.
West Virginia Department of Environmental Protection
Division of Air Quality
601 57th Street SE
Charleston, WV 25304
Phone: 304/926-0499 ext. 1209 • Fax: 304/926-0478
Rex.E.Compston@wv.gov

Procedure for Requesting Public Hearing

During the public comment period, any interested person may submit written comments on the draft permit and may request a public hearing, if no public hearing has already been scheduled. A request for public hearing shall be in writing and shall state the nature of the issues proposed to be raised in the hearing. The Secretary shall grant such a request for a hearing if he/she concludes that a public hearing is appropriate. Any public hearing shall be held in the general area in which the facility is located.

Response to Comments (Statement of Basis)

The following comments were received from the U.S. EPA:

Condition 3.1.9: West Virginia SIP rule [45CSR§7-3] also applies here and implements a 20% opacity requirement. This must be included in this permit. The permit's fugitive dust control requirements, taken directly from West Virginia SIP Rule [45CSR§7-5.1.] does not allow source operations which may generate fugitive dust unless they utilize a process design or operation or maintenance procedures "to ensure the lowest fugitive particulate matter emissions reasonably achievable". Without details regarding what type of actions/equipment qualify as insuring lowest fugitive particulate matter emissions reasonably achievable to control fugitive dust; and not specifying the particular emission units are covered under this rule, the permit does not assure compliance with WVA SIP Rule [45CSR§7-5.1.]. The specific emission units that are covered under these SIP rules and methods to assure compliance need to be included here.

Condition 3.1.10: West Virginia SIP rule 45CSR§7-3 also applies here and implements a 20% opacity requirement and so should be included in the permit. The condition in the permit [based on 45CSR§7-5.2.] requiring the facilities to control the plant premises using specified measures is vague and unenforceable because the permit does not specify the required frequency, quantity and duration of each of the dust suppression techniques. Without details regarding what type of actions/equipment qualify as insuring lowest fugitive particulate matter emissions reasonably achievable to control fugitive dust; and not specifying the particular emission units are covered under this rule, the permit does not assure compliance with WVA SIP rule. The permit must include monitoring and reporting of control devices and practices to demonstrate compliance with the 20% opacity limit in the West Virginia SIP and must specify the emissions units covered under these rules.

Response to EPA Comments for Conditions 3.1.9 and 3.1.10: 45CSR§7-3.1 is addressed in condition 4.1.1, and it only applies to the kilns and rotary sand dryer. All other sources at this facility are fugitive and subject to 45CSR§7-5.1 or 45CSR§7-5.2. Concerning 45CSR§7-5.1, the emission units table lists several devices (full enclosures, partial enclosures, and a bag house) that are intended to control fugitive emissions and ensure compliance with 45CSR§7-5.1. Additionally, the stockpiles (which are subject to 45CSR§7-5.2) are well compacted and dust is controlled through use of water trucks. Fugitive emissions from haulroads (which are also subject to 45CSR§7-5.2) are also controlled through the use of water trucks. Since no monitoring, recordkeeping, or reporting is specified in 45CSR§7-5.1 or 5.2, recordkeeping has been added under the authority of 45CSR§30-5.1.c as condition 3.4.4.

Condition 3.4.4. requires that records are maintained indicating the use of any dust suppressants or other control measures applied. It also requires inspection of all fugitive control systems monthly to ensure that they are operated and conform to their designs. Records are also required of scheduled and non-scheduled maintenance, corrective actions taken as a result of the monthly inspections, and the times the fugitive dust control system(s) were inoperable.

Condition 4.1.10 (lb/hr limit for SO₂): This value used for both kilns conflicts with the value of 9.5 lbs/Hr found in the documentation for the alternative monitoring plan for 45CSR10 in appendix A of the permit.

Response to EPA Comments for Condition 4.1.10: The 9.5 lbs/hr SO₂ limit in the 45CSR10 monitoring plan corresponds to a previous emission limit established through NSR permitting. The company has been contacted and has submitted a revised monitoring plan with the correct NSR emission limit. The revised 45CSR10 monitoring plan was approved on August 18, 2014 and has been included as Appendix A.

Condition 4.1.16: The permittee has requested a revision for hydrogen fluoride (HF) emissions from the kilns (K1E, K2E, and P-K3E). The hydrogen fluoride emissions were increased from 902.7 micrograms of HF per gram of material fired to 1150 micrograms of HF per gram of material, a 21.5% increase in the emissions rate. The increase in the allowable emissions rate results in an increase of 35 Tons per year in allowable Hydrogen Fluoride emissions and represents an increase of 40 x the vacated rule limit of .029 g/kg. It is acknowledged that as yet there is no state or federal regulation requiring the facility to abide by a set limit for HF, however, HF is on West Virginia - Hazardous Substance List and is required to do a case-by-case analysis in absence of a Standard for this HAP. It appears that the previous title V permit contained this requirement: The facility shall submit a Part 1 112(j) “equivalent emission limitation by permit” application for case-by-case MACT determination containing the information required in 40 CFR §63.53(a), after June 1, 2010 but no later than July 1, 2010. The Part 1 112(j) application shall address HAP emissions from each of the kilns. A Part 2 112(j) “equivalent emission limitation by permit” application for case-by-case MACT determination containing information required in 40 CFR §63.53(b) is due within 60 days of the Part 1 112(j) application submittal. All 112(j) “equivalent emission limitation by permit” applications must be submitted to both WVDEP-Division of Air Quality, and to the USEPA at the following address: Chief of Permits and Technical Branch, US EPA Region III, Mail Code 3AP11, 1650 Arch Street, Philadelphia, PA, 19103-2029. [45CSR34, 40 CFR §63.52] It appears that there is no case-by-case analysis to inform the setting of the MACT limit for HF. This should be done before the permit is renewed.

Response to EPA Comments for Condition 4.1.16: Rather than require the permittee to submit a case-by-case MACT determination (since the new Brick MACT is due from the EPA by June 30, 2015), we propose the following compliance plan (Included in Section 4.6 of the permit). This plan will reduce annual HF emissions to previous 45CSR13 permit limits but still permit the higher hourly HF emissions and the higher HF concentration limit. To ensure compliance with the lower HF annual limits, throughput for the kilns has been reduced accordingly.