



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION 5  
77 WEST JACKSON BOULEVARD  
CHICAGO, IL 60604-3590

JUN 30 2016

REPLY TO THE ATTENTION OF:

**CERTIFIED MAIL**  
**RETURN RECEIPT REQUESTED**

Thomas Bennett, President  
Hydraulic Press Brick Company  
6618 North Tidewater Road  
Brooklyn, Indiana, 46111

Re: Administrative Consent Order EPA-5-16-113(a)-IN-07

Dear Mr. Bennett:

Enclosed is an executed original of the Administrative Consent Order regarding the above captioned case. If you have any questions about the Order, please contact me at (312) 886-6797.

Sincerely,

A handwritten signature in black ink, appearing to read "Sarah Marshall".

Sarah Marshall, Chief  
Air Enforcement and Compliance Assurance Section (MI/WI)

Enclosure

cc: Louise Gross, C-14J  
Phil Perry, IDEM

**UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
REGION 5**

<b>In the Matter of:</b>	)	EPA-5-16-113(a)-IN-07
	)	
<b>Hydraulic Press Brick Company</b>	)	<b>Proceeding Under Section[s] 113(a)(1) and</b>
<b>Brooklyn, Indiana</b>	)	<b>113(a)(3) of the Clean Air Act, 42 U.S.C.</b>
	)	<b>§§ 113(a)(1) and 113(a)(3)</b>
	)	

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**Administrative Consent Order**

1. The Director of the Air and Radiation Division, U.S. Environmental Protection Agency (EPA), Region 5, is issuing this Order to Hydraulic Press Brick Company (“HPBC”) under Sections 113(a)(1) and 113(a)(3) of the Clean Air Act (“CAA”), 42 U.S.C. §§ 7413(a)(1) and 7413(a)(3).

**Statutory and Regulatory Background**

2. Each state must submit to the Administrator of EPA a plan for attaining and maintaining the National Ambient Air Quality Standards under Section 110 of the CAA, 42 U.S.C. § 7410.
3. On March 12, 1982, EPA approved 326 Indiana Administrative Code (“IAC”) Article 7-1, governing sulfur dioxide (“SO<sub>2</sub>”) emissions in Indiana as part of the Indiana State Implementation Plan (“SIP”) (47 FR 10813). The EPA has approved various codifications and revisions to this rule. *See, e.g.*, 70 Fed. Reg. 56129 (October 26, 2005).
4. 326 IAC 7-1.1-1 states that all emissions units with a potential to emit twenty-five (25) tons per year (tpy) or ten (10) pounds per hour of SO<sub>2</sub> shall comply with the limitations in Section 2 of this rule (326 IAC 7-1.1-2).

5. 326 IAC 7-1.1-2(a)(1) states that SO<sub>2</sub> emissions from fuel combustion emissions units shall be limited to six and zero-tenths (6.0) pounds per million British thermal units (“lbs/MMBtu”) for coal combustion.
6. Title V of the CAA, 42 U.S.C. §§ 7661a-7661f, establishes an operating permit program for certain sources, including “major sources.”
7. Section 502(a) of the CAA, 42 U.S.C. § 7661a(a), provides that after the effective date of any permit program approved or promulgated under Title V of the CAA, no source subject to Title V may operate the source except in compliance with its Title V permit.
8. Pursuant to Section 502(b) of the CAA, 42 U.S.C. § 7661a(b), on July 21, 1992, EPA promulgated regulations establishing the minimum elements of a permit program to be administered by any air pollution control agency (*57 Fed. Reg.* 32295). These regulations are codified at 40 C.F.R. Part 70.
9. The federal regulations, at 40 C.F.R. § 70.2, define “major source,” in part, as any stationary source belonging to a single major industrial grouping and that directly emits or has the potential to emit 100 tpy of any air pollutant, as defined under Section 302 of the CAA, 42 U.S.C. § 7602.
10. The federal regulations, at 40 C.F.R. § 70.7(b), provide that no source subject to Title V may operate the source except in compliance with a Title V permit.
11. The EPA promulgated final interim approval of the Indiana Title V program on November 14, 1995, 60 Fed. Reg. 57191, and the program became effective on that date. This includes 326 IAC 2-7.
12. Indiana regulation 326 IAC 2-7-5(1) provides that Title V permits shall incorporate emission limitations and standards, including those operational requirements and limitations that assure compliance with all applicable requirements at the time of a Part 70 permit issuance.

13. Under Section 113(a)(1) of the CAA, 42 U.S.C. § 7413 (a)(1), the Administrator of EPA may issue an order requiring compliance to any person who has violated or is violating a SIP. The Administrator has delegated this authority to the Director of the Air and Radiation Division.
14. Under Section 113(a)(3) of the CAA, 42 U.S.C. §7413(a)(3), the Administrator of EPA may issue an order requiring compliance to any person who has violated or is violation any requirement or prohibition of any rule promulgated under Title V of the CAA.

### Findings

15. HPBC owns and operates a lightweight aggregate manufacturing facility at 6618 North Tidewater Road, Brooklyn, Indiana (“Brooklyn Plant”).
16. HPBC is a corporation authorized to do business in Indiana.
17. HPBC is a “person,” as that term is defined in Section 302(e) of the CAA, 42 U.S.C. § 7602(e).
18. Kilns 4 and 5 at the Brooklyn Plant are “fuel combustion emissions units” under the Indiana SIP.
19. Kiln 4 and Kiln 5 at the Brooklyn Plant each have the potential to emit 25 tpy or more of SO<sub>2</sub>.
20. The Indiana Department of Environmental Management issued Title V Operating Permit No. T109-26822-00007 to HPBC, with an effective date of July 23, 2014.
21. Condition D.2.3(a) of HPBC’s Title V operating permit states that the sulfur dioxide emissions from each of the three rotary kilns (Kilns 3, 4, and 5) when burning coal, shall not exceed 6 lbs/MMBtu of coal combustion.
22. On February 5, 2014, EPA issued to HPBC a Notice of Violation and Finding of Violation (“NOV/FOV”) giving notice of the violations alleged below, and offering the Respondent an

opportunity to confer with the EPA. On March 27, 2014, representatives of HPBC and EPA discussed the February 5, 2014 NOV/FOV.

23. EPA alleges that SO<sub>2</sub> emissions from HPBC's Kiln 4 and Kiln 5 each exceed the 6 lbs/MMBtu Indiana SIP SO<sub>2</sub> limitation established at 326 IAC 7-1.1-2(a)(1) for fuel combustion emission units combusting coal.
24. In addition, EPA alleges that SO<sub>2</sub> emissions from HPBC's Kiln 4 and Kiln 5 each exceed the 6 lbs/MMBtu Title V permit limitation established at Condition D.2.3(a).

#### **Compliance Program**

25. By no later than 90 days after the effective date of this Order, HPBC must install and begin operating a limestone injection system for the control of SO<sub>2</sub> emissions at both Kiln 4 and Kiln 5.
26. By no later than 90 days after the installation of the limestone injection system, HPBC must conduct emissions testing using EPA Reference Methods 1-4 (stack gas characteristics) and 6C (SO<sub>2</sub>) at both Kiln 4 and Kiln 5 exhaust stacks to demonstrate compliance with the 6 lbs/MMBtu Indiana SIP SO<sub>2</sub> limitation established at 326 IAC 7-1.1-2(a)(1) for each kiln and the corresponding Title V requirement at Condition D.2.3(a). During the testing, HPBC shall operate the kilns at the maximum sustainable feed rate and record for each kiln: (1) the hourly feed rate; (2) the hourly production rate; (3) the hourly limestone injection rate; (4) the hourly coal combustion rate; and (5) the heat input value of the coal (in MMBtu) combusted at each kiln. In addition, during the SO<sub>2</sub> emissions testing, HPBC shall collect a representative sample of coal combusted for the purpose of determining the heat content and sulfur content of the coal combusted during the test, and a representative sample of the shale processed for the purpose of determining the sulfur content of the shale processed. Within 12

months of this testing, HPBC shall conduct additional emissions testing using the Reference Methods and conditions described in this paragraph.

27. HPBC must provide notification of the intent to test to EPA no later than 30 calendar days prior to testing. Notification must include the scheduled testing date and a proposed testing protocol that describes in detail the methods and procedures for testing. HPBC must conduct the testing under a protocol approved in advance by EPA.
28. Within 45 days of completion of the testing, HPBC must provide EPA with a complete copy of the testing report, including relevant operating parameters (including those mentioned in Paragraph 26, above), calibrations, measurements, and calculations. Additionally, the report must provide the resulting SO<sub>2</sub> emission rates for each kiln (expressed as lbs/MMBtu) based on the data collected during the compliance testing, the sulfur content of coal fuel combusted during the test, the sulfur content of shale processed during the test, and the proposed limestone injection rate based on these values necessary to achieve compliance with the SO<sub>2</sub> SIP limitation of 6 lbs/MMBtu.
29. If at any time after the completion of the testing program specified in Paragraph 26, above, HPBC wishes to change either the sorbent injection material (e.g., from limestone to lime or sodium hydroxide) or the fuels used at the kilns (without introducing alternative sorbent materials), it shall conduct emissions testing at the affected kiln stack(s) following the methods described in Paragraphs 26 through 28, to demonstrate compliance with the 6 lbs/MMBtu SIP limitation and to establish new SO<sub>2</sub> emissions factors for the kiln(s) while operating under the new operating scenario.
30. Beginning on the effective date of this Order or upon completion of construction of the limestone injection system, whichever is later, HPBC agrees to continuously operate its limestone injection system on each kiln during kiln operation at a sorbent injection rate of, at

a minimum, the rate necessary to achieve compliance with the 6 lbs/MMBtu SIP limitation based on the sulfur content and usage rate of the coal being combusted and sulfur content and feed rate of the shale being processed. The minimum limestone injection rate necessary to achieve compliance shall be established based on the following procedure:

- a. HPBC will collect a composite of a minimum of six samples of shale derived from a gridded area of the mine where the upcoming extraction will take place over the subsequent calendar month. HPBC will submit that composite sample to be tested for sulfur content by a certified lab using ASTM D5016 or ASTM4239.
- b. Based on the tested sulfur content of shale, vendor heat and sulfur content data of the coal to be combusted, and the maximum shale/coal usage rate anticipated for the calendar month, HPBC will determine the uncontrolled hourly SO<sub>2</sub> emission rate during operations over the subsequent month. HPBC shall determine the hourly limestone injection rate necessary to achieve compliance with the 6 lbs/MMBtu SIP limitation based on the predicted uncontrolled SO<sub>2</sub> emission rate and the limestone injection rate necessary to achieve compliance with the 6 lbs/MMBtu SIP limitation. Attachment A to this Order provides an example of how the hourly SO<sub>2</sub> emissions and limestone injection rates will be computed under a particular set of operating parameters for each kiln. Attachment B to this Order contains the equation that HPBC will use in calculating the applicable limestone injection rate to achieve compliance with the SO<sub>2</sub> SIP limitation of 6 lbs/MMBtu.

31. HPBC shall maintain records, for Kiln 4 and Kiln 5, of the hourly shale feed rate, the coal combustion rate, and the associated limestone feed rate during kiln operation. If HPBC wishes to operate a kiln at a shale/coal usage rate that differs from the maximum anticipated rate predicted at the beginning of a month, a new hourly limestone injection feed rate shall be

calculated, using the calculation methodology provided in the Attachment to this Order, to support an adjusted shale/coal usage rate.

32. Once per operating quarter, HPBC shall submit a report to EPA that provides the hourly coal, shale, and limestone usage rates during the quarter, the shale and coal sulfur content data, and the associated limestone injection rate calculation spreadsheets.
33. HPBC must send all reports required by this Order to:

Attention: Compliance Tracker (AE-17J)  
Air Enforcement and Compliance Assurance Branch  
U.S. Environmental Protection Agency, Region 5  
77 W. Jackson Boulevard  
Chicago, Illinois 60604

#### **General Provisions**

34. This Order does not affect HPBC's responsibility to comply with other federal, state, and local laws.
35. This Order does not restrict EPA's authority to enforce the Indiana SIP or any section of the CAA.
36. Nothing in this Order limits the EPA's authority to seek appropriate relief, including penalties, under Section 113 of the CAA, 42 U.S.C. § 7413, for HPBC's violation of the SIP or its Title V permit.
37. Failure to comply with this Order may subject HPBC to penalties of up to \$37,500 per day for each violation under Section 113 of the CAA, 42 U.S.C. § 7413, and 40 C.F.R. Part 19.
38. The terms of this Order are binding on HPBC, its assignees and successors. HPBC must give notice of this Order to any successors in interest prior to transferring ownership and must simultaneously verify to EPA, at the above address, that it has given the notice.
39. EPA may use any information submitted under this Order in an administrative, civil judicial, or criminal action.

40. HPBC agrees to the terms of this Order. HPBC waives any remedies, claims for relief, and otherwise available rights to judicial or administrative review that it may have with respect to any issue or fact or law set forth in this Administrative Consent Order, including any right of judicial review under Section 307(b) of the CAA, 42 U.S.C. § 7607(b).

41. HPBC neither admits nor denies the factual allegations in this Order.

42. This Order is effective on the date of signature by the Director of the Air and Radiation Division. This Order will terminate two years from the effective date, provided that HPBC has complied with all terms of the Order throughout its duration.

(m)

June 28, 2016

Date



\_\_\_\_\_  
Tom Bennett  
President  
Hydraulic Press Brick Company

6/30/16

Date



\_\_\_\_\_  
Edward Nam  
Acting Director  
Air and Radiation Division  
U. S. Environmental Protection Agency, Region 5

# Attachment A

Hydraulic Press Brick  
Brooklyn, Indiana  
Determination of Limestone Injection Rate

Step 1: Input Data for Shale Feed for Upcoming Week

Insert coal sulfur content and heat content based on vendor data into yellow cells below

1.80	Coal Sulfur Content (% as received, based on vendor data)
11,500	Coal Heat Content (Btu/lb as received, based on vendor data)

Insert Coal Feed Rate per Ton of Shale Processed (Assumed to be Fixed Values, but May be Adjusted Based on Operating Conditions)

233	Coal Feed Rate for Kiln 5 (lb/ton shale feed)
300	Coal Feed Rate for Kiln 4 (lb/ton shale feed)

Insert shale sulfur content into yellow cell below

0.5	Shale Sulfur Content (%), based on shale sampling
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Step 2: Compute Uncontrolled SO<sub>2</sub> Emissions Per Ton Shale Fed (Values Below are Computed from Inputs Above)

Kiln 5  
 8.04 lb SO<sub>2</sub>/ton shale feed from coal for Kiln 5 (based on AP-42 emission factor)  
 20.00 lb SO<sub>2</sub>/ton shale feed for Kiln 5 (SO<sub>2</sub> from shale; assuming 100% conversion of S to SO<sub>2</sub>)  
 2.70 Heat Input (mmBtu/ton shale fed to Kiln 5)  
 28.04 Total SO<sub>2</sub> Emissions (lb/ton shale fed to Kiln 5)  
 10.37 Uncontrolled SO<sub>2</sub> Emissions for Kiln 5 (lb/mmBtu)

Kiln 4  
 10.26 lb SO<sub>2</sub>/ton shale feed from coal for Kiln 4 (based on AP-42 emission factor)  
 20.00 lb SO<sub>2</sub>/ton shale feed for Kiln 4 (SO<sub>2</sub> from shale; assuming 100% conversion of S to SO<sub>2</sub>)  
 3.45 Heat Input (mmBtu/ton shale fed to Kiln 4)  
 30.26 Total SO<sub>2</sub> Emissions (lb/ton shale fed to Kiln 4)  
 8.77 Uncontrolled SO<sub>2</sub> Emissions for Kiln 4 (lb/mmBtu)

Step 3: Compute Target SO<sub>2</sub> Control (Values Below are Computed from Inputs Above)

Kiln 5  
 14.02 lb SO<sub>2</sub> to be controlled/ton shale fed for Kiln 5 based on 50% control of uncontrolled SO<sub>2</sub> emissions  
 5.19 lb SO<sub>2</sub>/mmBtu for Kiln 5 based on 50% control of uncontrolled SO<sub>2</sub> emissions  
 2.5 lb/mmBtu (maximum control required)  
 5.19 lb/mmBtu (target allowable SO<sub>2</sub> emission rate [least restrictive between 50% control and 2.5 lb/mmBtu])  
 14.02 lb/hr SO<sub>2</sub> reduction to be achieved by limestone injection per ton of shale processed

Kiln 4  
 15.13 lb SO<sub>2</sub> to be controlled/ton shale fed for Kiln 4 based on 50% control of uncontrolled SO<sub>2</sub> emissions  
 4.39 lb SO<sub>2</sub>/mmBtu for Kiln 4 based on 50% control of uncontrolled SO<sub>2</sub> emissions  
 2.50 lb/mmBtu (maximum control required)  
 4.39 lb/mmBtu (target allowable SO<sub>2</sub> emission rate [least restrictive between 50% control and 2.5 lb/mmBtu])  
 15.13 lb/hr SO<sub>2</sub> reduction to be achieved by limestone injection per ton of shale processed

Step 4: Compute Limestone Injection Rate per Ton of Shale Processed (Values Below are Computed from Inputs Above and Stack Test Limestone Injection Rates)

Kiln 5  
 112.15 Pounds limestone injected/pound SO<sub>2</sub> controlled for Kiln 5 (value established during engineering tests and verified during compliance test)  
 14.02 Pounds SO<sub>2</sub> to be controlled per ton of shale processed for Kiln 5  
 112.15 pounds limestone to be injected per ton of shale processed for Kiln 5

Kiln 4  
 90.78 Pounds limestone injected/pound SO<sub>2</sub> controlled (value established during engineering tests and verified during compliance test)  
 15.13 Pounds SO<sub>2</sub> to be controlled per ton of shale processed  
 90.78 pounds limestone to be injected per ton of shale processed

Step 5: Compute Limestone Injection Rate Based on Daily Operating Level

Kiln 5 - Insert shale feed rate into yellow cell; value in orange cell is computed limestone injection rate necessary to achieve target SO<sub>2</sub> removal

22	Kiln 5 shale feed rate (tons/hour)
2467	lb/hr limestone injection rate needed for Kiln 5 to achieve target SO <sub>2</sub> removal

Kiln 4 - Insert shale feed rate into yellow cell; value in orange cell is computed limestone injection rate necessary to achieve target SO<sub>2</sub> removal

12	Kiln 4 shale feed rate (tons/hour)
1089	lb/hr limestone injection rate needed for Kiln #4 to achieve target SO <sub>2</sub> removal

Month: \_\_\_\_\_

Kiln:       #5      

Required Limestone Injection Rate

Shale Feed Rate (t/hr)	Minimum Limestone Injection Rate Required (lb/hr)
10	1121
11	1234
12	1346
13	1458
14	1570
15	1682
16	1794
17	1907
18	2019
19	2131
20	2243
21	2355
22	2467
23	2579
24	2692
25	2804
26	2916
27	3028
28	3140
29	3252
30	3364

## Attachment B

### Hydraulic Press Brick Limestone Injection Rate Calculation

The limestone injection rate will be established using the following equation:

$$L_c = [(C_s * 38 * C_{fr} / 2000) + (S_s / 100 * 2000 * (64 / 32))] * [(R_s - 6.0) / R_s] * L_r * S_{fr}$$

Where

$L_c$  = Calculated limestone injection rate (lb/hour)

$C_s$  = Coal sulfur content (%)

$C_{fr}$  = Coal feed rate (lb coal/ton shale processed)

$S_s$  = Shale sulfur content (%)

$R_s$  = uncontrolled SO<sub>2</sub> emission rate (lb/mmBtu)

$L_r$  = Limestone injection rate (lb limestone/lb SO<sub>2</sub> removed based on compliance test)

$S_{fr}$  = Shale feed rate (tons per hour)

Note: 385 lb/ton coal (AP-42 Table 1.1-3)

64 lb/lb-mole (molecular weight of SO<sub>2</sub>)

32 lb/lb-mole (molecular weight of sulfur)

The uncontrolled SO<sub>2</sub> emission rate (in lb SO<sub>2</sub>/mmBtu) is computed using the equation:

$$R_s = [(C_s * 38 * C_{fr} / 2000) + (S_s / 100 * 2000 * (64 / 32))] * S_{fr} / [(C_{fr} * S_{fr} * C_{hc}) / 1,000,000]$$

Where

$C_{hc}$  = Coal heat content (Btu/pound of coal)

CERTIFICATE OF MAILING

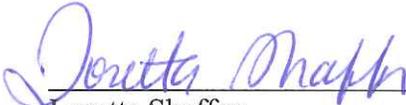
I, Loretta Shaffer, certify that I sent the Administrative Consent Order, EPA-5-16-113(a)-IN-07, by certified mail, return receipt requested, to:

Thomas Bennett, President  
Hydraulic Press Brick Company  
6618 North Tidewater Road  
Brooklyn, Indiana, 46111

I also certify that I sent a copy of the Administrative Consent Order, EPA-5-16-113(a)-IN-07, by E-mail to:

Phil Perry, Chief, Air Compliance Branch  
PPERRY@idem.IN.gov

On the 1 day of July 2016.

  
\_\_\_\_\_  
Loretta Shaffer  
Program Technician  
AECAB, PAS

CERTIFIED MAIL RECEIPT  
NUMBER:

7009 1680 0000 7646 9210