

MEMORANDUM

DATE: August 7, 2012

TO: Richard D. Garrity, Ph.D.

FROM: Roger Zhu **THRU:** Stephen Hathaway, P.E.

SUBJECT: **Operating Permit Renewal - Florida Brick and Clay Company, Inc.**
Permit No. 0570230-005-AO

Attached is renewal Permit No. 0570230-005-AO for Florida Brick and Clay Company, a brick and quarry tile manufacturing facility located at 1708 Turkey Creek Road, Plant City, FL 33566. The manufacturing process involves a railcar unloading operation, primary crusher, hammer mill, disc mill, dry pan grinder, associated conveyor belts, and two natural gas fired tunnel kilns (Kiln #1 & #2).

On June 12, 2012, EPC staff sent a DRAFT of Renewal Permit No. 0570230-005-AO to Florida Brick and Clay and their consulting company, Environmental Engineering Consultants, Inc. (EEC) for their review and comment prior to final issuance. The hammer mill and the disc mill were previously permitted air pollution sources under Permit No. 0570230-004-AO. During the facility inspection conducted on February 24, 2012, EPC staff noticed that the railcar unloading operation, primary crusher, and dry pan grinder with the associated conveyor belt system had not been addressed in the permit, process description, or in the technical evaluation. Also, the two kilns, which were originally permitted, were exempted from permitting in April 27, 1998.

During the review of the historical permit records, EPC staff noted that these activities were not after-the-fact emission sources. These activities have been part of Florida Brick & Clay's operation since the initial permitting of this facility, in November 1986, but were never reflected in the permit. However, after review and evaluation of the overall facility operations, EPC staff has determined that each air emitting source (railcar unloading, hammer mill, disc mill, primary crusher, dry pan grinder, associated conveyor belts, as well as the two natural gas fired tunnel kilns (Kiln #1 & #2)) plays an integral part in the brick making process, and therefore, these operations cannot be individually exempted from permitting.

Based on this determination, the facility-wide potential to emit for PM emissions has been calculated to be 14 TPY. Since the total facility-wide maximum allowable emissions of particulate matter are less than 15 TPY and 5 lbs/hr, Florida Brick & Clay is exempt from PM RACT (Rule 62-296.700, F.A.C.). However, the facility is subject to Chapter 1-3.52, Rules of the EPC, which requires that all of the material handling operations comply with a 5% opacity standard. Also, Kilns 1 and 2 will be required to

comply with a 10% opacity standard as agreed between Florida Brick and Clay and the EPC in 1988 (Permit No. AO29-146688).

As result of this determination, the facility's air operating permit renewal will include the following changes:

1. The railcar unloading, primary crusher and dry pan grinder operations with associated conveyor belt system will be reflected as permitted emission activities under EU 006 – Material Handling Operations;
2. Kiln #1 and Kiln #2 will be reflected as permitted emission units (EU 001 and EU 002);
3. The permittee will conduct operational checks on the baghouse (EU 003) in order provide reasonable assurance of continuous compliance with the emission standards for the emission unit. In addition, all maintenance operations performed on the baghouse shall be conducted in accordance with the manufacturer's recommendations.

The following emission points are associated with the material handling operations (EU 006) conducted at Florida Brick and Clay's facility:

Emission Points	Transfer Point Description
Material handling operations associated with the railcar unloading and primary crusher operation	Railcar to conveyor
	Conveyor to crusher
	Crusher to conveyor
	Conveyor to Pile

Emission Points	Transfer Point Description
Material handling operations associated with the dry pan grinder and Kiln #1 operation	Front-end loader to hopper
	Hopper to conveyor
	Conveyor to dry pan grinder
	Dry pan grinder to conveyor
	Conveyor to conveyor
	Conveyor to screen
	Screen to belt return conveyor
	Belt return conveyor to conveyor
	Conveyor to reversing conveyor
	Reversing conveyor to tank
	Tank to conveyor
	Conveyor to paddle mixer
	Paddle mixer to conveyor
	Conveyor to extruder

Emission Points	Transfer Point Description
Material handling operations associated with Kiln #2 operation	Front-end loader to hopper
	Hopper to conveyor
	Conveyor to disc mill
	Disc mill to conveyor
	Conveyor to movable conveyor
	Movable conveyor to pile

	Loader to kiln feeder
	Feeder to conveyor
	Conveyor to weigh hopper

PM emissions from the Hammer Mill and Disc Mill are controlled by a 13,000 ACFM Fuller Model No. 168 C10 jet pulse baghouse. All the activities listed above except for the railcar unloading station operate inside of the building. Based on the information provided by the facility, the moisture content of the raw clay can range between 5% and 20%, with an overall average of about 8% moisture.

Several comments were received from the facility's consulting company, Environmental Engineering Consultants, on the DRAFT renewal permit. The comments and responses have been attached to the permit in Attachment B.

Based on our review, we recommend the issuance of the attached permit renewal as drafted.

KRZ: 0570230-005-AO

Attachments

ENVIRONMENTAL PROTECTION COMMISSION OF
HILLSBOROUGH COUNTY, as Delegated by

STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL PROTECTION

NOTICE OF PERMIT ISSUANCE

CERTIFIED MAIL

Antonio C. Azorin
President
Florida Brick & Clay Company, Inc.
1708 Turkey Creek Road
Plant City, FL 33566

File No.: 0570230-005-AO
County: Hillsborough

Enclosed is renewal Permit Number 0570230-005-AO to operate a brick manufacturing facility, issued pursuant to Section 403.087, Florida Statutes. Please read this new permit thoroughly as there are changes from the previous permit.

The EPC will issue the final permit with the attached conditions unless a timely petition for an administrative hearing is filed pursuant to Section 120.569 and 120.57 F.S. before the deadline for filing a petition. The procedures for petitioning for a hearing are set forth below.

A person whose substantial interests are affected by the proposed permitting decision may petition for an administrative proceeding (hearing) under Sections 120.569 and 120.57, F.S. The petition must contain the information set forth below and must be filed (received) in the Legal Department of the EPC at 3629 Queen Palm Dr, Tampa, Florida 33619, Phone 813-627-2600, Fax 813-627-2602. Petitions filed by the permit applicant or any of the parties listed below must be filed within 14 (fourteen) days of receipt of this notice of intent. Petitions filed by any persons other than those entitled to written notice under Section 120.60(3), F.S. must be filed within 14 (fourteen) days of receipt of this permit. Under Section 120.60(3), however, any person who asked the EPC for notice of agency action may file a petition within 14 (fourteen) days of receipt of that notice, regardless of the date of publication. A petitioner shall mail a copy of the petition to the applicant at the address indicated above, at the time of filing. The failure of any person to file a petition within the appropriate time period shall constitute a waiver of that person's right to request an administrative determination (hearing) under Sections 120.569 and 120.57, F.S., or to intervene in this proceeding and participate as a party to it. Any subsequent intervention will be only at the approval of the presiding officer upon the filing of a motion in compliance with Rule 28-106.205 of

the F.A.C.

A petition that disputes the material facts on which the EPC's action is based is required to contain the following information:

(a) The name and address of each agency affected and each agency's file or identification number if known;

(b) The name, address, and telephone number of the petitioner and the name, address, and telephone number of each petitioner's representative, if any, which shall be the address for service purposes during the course of the proceedings; and an explanation of how the petitioner's substantial interests will be affected by the EPC's determination;

(c) A statement of how and when the petitioner received notice of the EPC action;

(d) A statement of all disputed issues of material fact. If there are none, the petition must so indicate;

(e) A concise statement of the ultimate facts alleged, including the specific facts the petitioner contends warrant reversal or modification of the EPC's proposed action;

(f) A statement of specific rules or statutes that the petitioner contends requires reversal or modification of the EPC's proposed action, including an explanation of how the alleged facts relate to the specific rules or statutes; and

(g) A statement of the relief sought by the petitioner, stating precisely the action petitioner wishes the EPC to take with respect to the EPC's proposed action.

A petition that does not dispute the material facts upon which the EPC's action is based shall state that no such facts are in dispute and otherwise shall contain the same information as set forth above as required by Rule 28-106.301. Because the administrative hearing process is designed to formulate final agency action, the filing of a petition means that the EPC's final action may be different from the position taken by it in this notice. Persons whose substantial interests will be affected by any such final decision of the EPC on the application have the right to petition to become a party to the proceeding, in accordance with the requirements set forth above.

Mediation under section 120.573, F.S. is not available in this proceeding.

This action is final and effective on the date filed with the Clerk of the EPC unless a petition is filed in accordance with above. Upon the timely filing of a petition, this order will not be effective until further order of the EPC.

Any person listed below may request to obtain additional information, a copy of the application (except for information entitled to confidential treatment pursuant to Section 403.111, F.S.), all relevant supporting materials, and all other materials available to the EPC that are relevant to the permit decision. Interested persons may contact Stephen Hathaway, P.E., at the above address or call (813) 627-2600, for additional information.

Any party to this order has the right to seek judicial review of it under Section 120.68 of the Florida Statutes, by filing a notice of appeal under rule 9.110 of the Florida rules of Appellate Procedure with the EPC's Legal Office at 3629 Queen Palm Dr., Tampa, Florida 33619 and with the clerk of the Department of Environmental Protection in the Office of General Counsel, Mail

Station 35, 3900 Commonwealth Boulevard, Tallahassee, Florida 32399-3000, and by filing a copy of the notice of appeal accompanied by the applicable filing fees with the appropriate district court of appeal. The notice must be filed within thirty days after this order is filed with the clerk of the Department.

Executed in Tampa, Florida

ENVIRONMENTAL PROTECTION COMMISSION
OF HILLSBOROUGH COUNTY

Richard D. Garrity, Ph.D.
Executive Director

RDG/KRZ/krz

CERTIFICATE OF SERVICE

This is to certify that this NOTICE OF PERMIT ISSUANCE and all copies were mailed by certified mail before the close of business on _____ to the listed persons.

FILING AND ACKNOWLEDGEMENT FILED, on this date, pursuant to Section 120.52(7), Florida Statutes, with the clerk, receipt of which is hereby acknowledged.

Clerk

Date

PERMITTEE:
Florida Brick & Clay Company, Inc.
1708 Turkey Creek Road
Plant City, FL 33566

PERMIT/CERTIFICATION
Permit No: 0570230-005-AO
County: Hillsborough
Expiration Date: August 7, 2017
Project: Brick Manufacturing Renewal

This permit is issued under the provisions of Chapter 403, Florida Statutes, and Florida Administrative Code Rules 62-204, 62-210, 62-212, 62-296, 62-297, and 62-4. The above named permittee is hereby authorized to perform the work or operate the facility shown on the application and approved drawing(s), plans and other documents, attached hereto or on file with the EPC and made a part of hereof and specifically described as follows:

Florida Brick & Clay Company is a brick and quarry tile manufacturing facility. The manufacturing process involves a railcar unloading operation, primary crusher, hammer mill, disc mill, and dry pan grinder operation with associated conveyor belts, as well as two natural gas fired tunnel kilns (Kiln #1 & #2). Below is a detailed description of Florida Brick & Clay's manufacturing process.

Unprocessed (raw) clay is received by railcar and is bottom unloaded onto a conveyor belt which then transfers the clay to the primary crusher. The crusher system is electrically powered and is located inside of the manufacturing building. The raw clay is crushed to a smaller size and transferred by belt conveyor to a storage pile inside of the building. The clay is then transported by payloader either to the disc mill or the dry pan grinder for further processing.

Scrap bricks are loaded into a hopper by payloader and transferred via belt conveyor to the hammer mill. The brick is ground in the hammer mill and transferred by belt conveyor to the shaker screen. The ground brick is then transferred by belt conveyor to a storage silo and the oversize brick is returned to the hammer mill via belt conveyor. The process is repeated until all of the scrap bricks are ground to a specified size and conveyed into the storage silo.

The raw clay that has been processed through the primary crusher is loaded into a separate hopper by payloader where it is transferred by belt conveyor to the disc mill. The moisture content of raw clay can range between approximately 5% and 20%. The clay is ground in the disc mill and transferred by belt conveyor to storage bins. From the storage bins the ground clay is fed by payloader to two feed hoppers, where it is transferred by belt conveyors to a weigh hopper. The ground brick and clay are then gravity fed from the weigh hopper to a two-stage mixing tank to form quarry tile or pool coping, and then fed to Kiln #2 for drying. The entire operation is enclosed in a building with seven pickup points (grinding, screening, and belt conveyor transfer points), which are vented to a 13,000 ACFM Fuller Model No. 168 C10 jet pulse baghouse.

The dry pan grinder operation, which is located in the northwest corner of the building, is similar to the disc mill operation. Recycled brick and raw clay are loaded into a hopper by payloader where it is transferred by belt conveyor to the dry pan grinder. The clay is ground in the dry pan grinder, screened and transferred by belt conveyor to storage Tanks 1 and 2. The ground clay from Tanks 1 and 2 are gravity fed to the paddle mixer and then conveyed to the extruder to form brick pavers, and then fed to Kiln #1 for drying. Additives may also be introduced into the mixing process to produce a desired color product.

The two natural gas fired tunnel kilns and waste heat dryers are used for the production of bricks. Soft extruded bricks are stacked on racks and transported by track-guided cars through the dryers and then to the kilns. The temperature in the kilns is controlled by zones, where the coldest temperature is at the entrance of the kiln and the hottest temperature is at the center of the kiln. Gradual cool-down of the bricks is accomplished in decreasing temperature zones at the exit of the kiln. Hot, dry air from the cool-down section of the kiln is ducted to the waste heat dryer to dry incoming bricks. Approximately 10-15% of the finished product is recycled material.

PM emissions from the hammer mill and disc mill are controlled by a 13,000 ACFM Fuller Model No. 168 C10 jet pulse baghouse. The entire operation, except for the railcar unloading operation, is enclosed in a building. The facility-wide potential to emit for PM emissions is 14 TPY. Since the total facility-wide maximum allowable emissions of particular matter are less than 15 TPY and 5 lbs/hr, Florida Brick & Clay is exempt from PM RACT (Rule 62-296.700, F.A.C.). However, the facility is subject to Chapter 1-3.52, Rules of the EPC, which requires that all the material handling operations comply with a 5% opacity standard. Also, Kilns 1 and 2 will be required to comply with a 10% opacity standard.

Location: 1708 Turkey Creek Road, Plant City

UTM: 17-384.90E 3097.10N

Facility ID NO: 0570230

Emission Unit ID: 001 – Natural Gas Fired Tunnel Kiln #1
002 – Natural Gas Fired Tunnel Kiln #2
003 – Hammer Mill and Disc Mill Operation with a Baghouse
006 – Material Handling Operations

Replaces Permit No.: 0570230-004-AO

PERMITTEE:
Florida Brick & Clay Company, Inc.

PERMIT/CERTIFICATION NO.: 0570230-005-AO
PROJECT: Brick Manufacturing Renewal

SPECIFIC CONDITIONS:

1. A part of this permit is the attached 15 General Conditions. [Rule 62-4.160, F.A.C.]
2. All applicable rules of the Environmental Protection Commission of Hillsborough County including design discharge limitations specified in the application shall be adhered to. The permit holder may also need to comply with county, municipal, federal, or other state regulations prior to construction. [Rule 62-4.070(7), F.A.C.]
3. Issuance of this permit does not relieve the permittee from complying with applicable emission limiting standards or other requirements of Chapters 62-204, 62-210, 62-212, 62-296 and 62-297, F.A.C., or any other requirements under federal, state, or local law. [Rule 62-210.300, F.A.C.]
4. In order to limit the potential to emit for particulate matter (PM) emissions and exempt the facility from PM RACT, the following restrictions and limitations shall apply for any consecutive twelve (12) month period: [Rules 62-296.700(2)(a) and 62-4.070(3), F.A.C. and Chapter 1-3.52. of the Rules of the EPCHC]
 - A) Maximum production rate for Kiln 1: 1,836 lbs/hr
 - B) Maximum production rate for Kiln 2: 2,400 lbs/hr
 - C) Maximum combined operating time for the hammer and disc mills: 3,330 hrs/yr*.
 - D) All of the emissions associated with hammer mill, disc mill, and associated transfer points shall be vented through the baghouse.

*Both mills may operate simultaneously, and the combined hours are tracked by the baghouse hours since both units are controlled by the baghouse, and the baghouse always operates whenever the grinding mills operate.

5. The following visible emission standards shall apply:
[Rule 62-4.070(3), F.A.C., Chapter 1-3.52. of the Rules of the EPCHC, and Permit No. AO29-146688]
 - A) The hammer mill, disc mill, screen, conveyors, storage bins, and the baghouse exhaust shall not exceed 5% opacity.
 - B) The railcar unloading, the primary crusher, the dry pan grinder, and associated material handling and transfer operations shall not exceed 5% opacity.
 - C) Kiln 1 and Kiln 2 shall not exceed 10% opacity.
6. In order to demonstrate compliance with the visible emissions standards specified in Specific Condition No. 5, test one kiln (EU 001 or 002), the baghouse exhaust from the hammer mill and disc mill operation (EU 003), the railcar unloading operation, and the building (EU 006) for visible emissions annually, once per federal fiscal year (October 1 – September 30) beginning in FFY 2013 with a target date of April 19. The EPA Method 9 test observation period on this source shall be at least thirty (30) minutes in duration and shall be conducted at capacity as defined in Specific Condition No. 7. Two copies of the test data shall be submitted to the Air Management Division of the Environmental Protection

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SPECIFIC CONDITIONS:

Commission of Hillsborough County within 45 days of testing. [Rule 62-297.310(7)(a)4., F.A.C.]

7. Testing of emissions shall be conducted with the source operating at capacity. Capacity is defined as 90-100% of the rated capacity of 1,836 lbs/hr for Kiln 1 (EU 001), 2,400 lbs/hr for Kiln 2 (EU 002), and normal operation of the combined hammer mill and disc mill operation (EU 003) and material handling equipment (EU 006). If it is impracticable to test at capacity, then the source may be tested at less than capacity; in this case subsequent source operation is limited to 110% of the test load until a new test is conducted. Once the unit is so limited, then operation at higher capacities is allowed for no more than fifteen days for purposes of additional compliance testing to regain the rated capacity in the permit, with prior notification to the EPC. Failure to submit the input rates and actual operating conditions may invalidate the test. [Rules 62-4.070(3) and 62-297.310(2)(b), F.A.C.]

8. The permittee shall notify the Air Compliance Section of the Environmental Protection Commission of Hillsborough County at least 15 days prior to the date on which each formal compliance test is to begin of the date, time, and place of each such test, and the contact person who will be responsible for coordinating and having such test conducted. [Rule 62-297.310(7)(a)9., F.A.C.]

9. When the Environmental Protection Commission of Hillsborough County (EPC) after investigation, has good reason (such as complaints, increased visible emissions or questionable maintenance of control equipment) to believe that any applicable emission standard contained in Rules 62-204, 62-210, 62-212, 62-296, or 62-297, F.A.C., or in a permit issued pursuant to those rules is being violated, it may require the owner or operator of the source to conduct compliance tests which identify the nature and quantity of pollutant emissions from the source and to provide a report on the results of said tests to the EPC. [Rule 62-297.310(7)(b), F.A.C.]

10. In order to demonstrate compliance with Specific Condition No. 4, the permittee shall maintain monthly records of operations compiled from daily logs during the operation of the kilns for the most recent three year period. The records shall be made available to the Environmental Protection Commission of Hillsborough County, state, or federal air pollution agency upon request. The records shall include, but not limited to, the following: [Rule 62-4.160(14), F.A.C.]

- A) Month, Year
- B) Hours of operation for the hammer mill and disc mill baghouse
- C) Total monthly production for Kiln 1 and Kiln 2
- D) Rolling 12 month total of B) and C) above

11. All reasonable precautions shall be taken to prevent and control generation of unconfined emissions of particulate matter in accordance with the provision in Rule 62-296.320(4)(c), F.A.C. These provisions are applicable to any source, including, but not limited to, vehicular movement, transportation of materials, construction, alterations, demolition or wrecking, or industrial related activities such as loading, unloading, storing and handling.

- A) Paving or maintenance of roads, parking areas, and yards.

PERMITTEE:
Florida Brick & Clay Company, Inc.

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SPECIFIC CONDITIONS:

- B) Application of water when necessary to control emissions.
- C) Removal of particulate matter from roads and other paved areas under control of the owner or operator to prevent particulates from becoming airborne. Close building doors or openings, if necessary.
- D) Maintenance of the material transportation system as suggested by the manufacturer or as necessary to operate properly.
- E) Curtailing of operation if winds are entraining unconfined particulate matter. Clean up spills promptly.
- F) Posting vehicle speed limits, if necessary.

12. The permittee shall perform the following operational checks on the baghouse in order provide reasonable assurance of continual compliance with the emissions standards for the emission units. In addition, all maintenance operations performed on the baghouse shall be conducted in accordance with the manufacturer's recommendations. [Rules 62-4.070(3), F.A.C., and Chapter 1-1.06, Rules of the EPC]

Hammer Mill and Disc Mill Baghouse

A) Process Parameters:

- 1. Manufacturer: Fuller
- 2. Model Number: 168 C10
- 3. Efficiency: 99.9%
- 4. Bag Area: 2,185 ft²
- 5. Pressure Drop: 0-8" H₂O
- 6. Bag Cleaning Mechanism: Pulse Jet
- 7. Air Flow Rate: 13,000 ACFM
- 8. Air to Cloth Ratio: 6:1
- 9. Gas Temperature: Ambient
- 10. Stack Height: 8 ft
- 11. Operation Schedule: During disc mill and/or hammer mill operation.

B) The following observations, checks and operations shall be conducted on the schedule specified:

Weekly (during operation of the disc mill and/or hammer mill)

- 1. Observe stack during operation to confirm absence of visible emissions.
- 2. Check and record pressure drop in inches of water (" H₂O)
- 3. Check and record cleaning pulse (compressed) air pressure (psig)

C) Records:

Records of inspections, maintenance, and performance parameters shall be retained for a minimum of three years and shall be made available to the Environmental Protection Commission of Hillsborough County upon request. [Rules 62-4.070(3) and 62-4.160(14), F.A.C.]

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SPECIFIC CONDITIONS:

13. The permittee shall provide timely notification to the Environmental Protection Commission of Hillsborough County prior to implementing any changes that may result in a modification to this permit pursuant to Rule 62-210.200, F.A.C., Modification. The changes do not include normal maintenance, but may include, and are not limited to, the following, and may also require prior authorization before implementation: [Rules 62-210.300 and 62-4.070(3), F.A.C.]

- A) Alteration or replacement of any equipment* or major component of such equipment.
- B) Installation of addition of any equipment* which is a source of air pollution.
- C) The use of materials and fuels other than those authorized by this permit.

*Not applicable to routine maintenance, repair, or replacement of component parts.

14. Submit to the Environmental Protection Commission of Hillsborough County each calendar year on or before April 1, completed DEP Form 62-210.900(5), "Annual Operating Report for Air Pollutant Emitting Facility", for the preceding calendar year. [Rule 62-210.370(3), F.A.C.]

15. If the permittee wishes to transfer this permit to another owner, an "Application for Transfer of Permit" (currently DEP Form 62-210.900(7)) shall be submitted, in duplicate, to the Environmental Protection Commission of Hillsborough County within 30 days after the sale or legal transfer of the permitted facility. [Rule 62-4.120, F.A.C.]

16. Prior to sixty days before the expiration of this operation permit, the permittee shall apply for a renewal of the permit using the current version of the permit renewal application form. A renewal application shall be timely and sufficient. If the application is submitted prior to sixty days before the expiration of the permit, it will be considered timely and sufficient. If the renewal application is submitted at a later date, it will not be considered timely and sufficient unless it is submitted and made complete prior to the expiration of the operation permit. When the application for renewal is timely and sufficient, the existing permit shall remain in effect until the renewal application has been finally acted upon by the EPC or, if there is court review of the final agency action, until a later date is required by Section 120.60, Florida Statutes. [Rule 62-4.090, F.A.C.]

ENVIRONMENTAL PROTECTION COMMISSION
OF HILLSBOROUGH COUNTY

Richard D. Garrity, Ph.D.
Executive Director