TITLE V OPERATING PERMIT

Permittee:	**U.S. Brick - Bessemer Plant No. 6**
Location:	**8250 Hopewell Road S.E.** **Bessemer, AL 35022**
Permit No:	**4-07-0486-08**
Issuance Date:	**Draft for public comment**
Expiration Date:	**N/A – permit duration will be 5 years from date of issuance of final permit**
Nature of Business:	**Clay Brick Manufacturer**

Emissions Unit No.	Emissions Unit Description
001	Primary Clay Crusher
002	Clay Grinding and Storage Building
003	Natural Gas Fired Tunnel Kiln Nos. 1 and 2 and Brick Dryer Nos. 1 through 4
004	Storage Silos
005	Kiln Car Cleaning Station
006	Sand and Slurry Coating, Mixing, Forming, Cutting, and Stacking Operations

This Permit is issued pursuant to and is conditioned upon the compliance with the provisions of the Jefferson County Board of Health Air Pollution Control Rules and Regulations, the applicable requirements of the Clean Air Act implementation plan for Alabama approved or promulgated by the United States Environmental Protection Agency (EPA) through rulemaking under title I of the Clean Air Act (identified in 40 CFR 52, Subpart B) and other applicable requirements as defined in section 18.1.1(e) of the Jefferson County Board of Health Rules and Regulations, Section 18 of the Alabama Air Pollution Control Act of 1971, Act No. 769 (Regular Session, 1971), Section 22-28-16 of the Alabama Air Pollution Control Act as amended, Orders of the Jefferson County Board of Health, Orders of the Director of the Alabama Department of Environmental Management (ADEM), and any applicable local, state or federal Court Order. This Permit is subject to the accuracy of all information submitted relating to the permit application and to the conditions appended hereto. It is valid from the date of issuance until the expiration date and shall be posted or kept under file at the source location described above and shall be made readily available for inspection at any reasonable time to any and all persons who may request to see it. This Permit is not transferable. Pursuant to the Clean Air Act, conditions of this permit are federally enforceable by EPA, The Jefferson County Board of Health, ADEM and citizens in general. However, provisions that are not required by the Clean Air Act or under any of its applicable requirements, are considered to be Jefferson County provisions and are not federally enforceable by EPA and citizens in general. Those provisions are contained in separate Sections of this Operating Permit and are specifically identified as not being federally enforceable.

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Jonathan Stanton, Director
Environmental Health Services

Approved: David Hicks, DO, MPH, FAAFP
Health Officer

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In addition to compliance with Alabama Air Pollution Control Act Number 769 (Regular Session, 1971) and Act Number 612 (Regular Session, 1982) and with all applicable Air Pollution Control Rules and Regulations, the conditions which are listed below are hereby contained in and made a part of this permit. For each citation to a Jefferson County Board of Health regulation provided in connection with a permit condition (other than for those permit conditions that are specifically identified in the permit as not being federally enforceable), Appendix A to this permit identifies the corresponding ADEM regulation that has been approved by EPA as part of the Clean Air Act implementation plan for Alabama (identified in 40 CFR 52, Subpart B). The corresponding ADEM regulations, together with the cited Jefferson County Board of Health regulations, serve as the origin and authority for the associated permit term or condition.

General Permit Conditions

No.	General Permit Conditions	Regulations
	Definitions	
1.	For the purposes of this Major Source Operating Permit, the following terms will have the meanings ascribed to in this permit: "40 CFR 51" shall be an acronym for Part 51 of Title 40 of the Code of Federal Regulations. "40 CFR 60" shall be an acronym for Part 60 of Title 40 of the Code of Federal Regulations. "40 CFR 61" shall be an acronym for Part 61 of Title 40 of the Code of Federal Regulations. "40 CFR 63" shall be an acronym for Part 63 of Title 40 of the Code of Federal Regulations. "40 CFR 82" is an acronym for Part 82 of Title 40 of the Code of Federal Regulations. "40 CFR 98" shall be an acronym for Part 98 of Title 40 of the Code of Federal Regulations. "Act" shall mean the Clean Air Act, as amended, 42 U.S.C. 7401, et seq. "ADEM" shall mean the Alabama Department of Environmental Management. "Belt conveyor" means a conveying device that transports material from one location to another by means of an endless belt that is carried on a series of idlers and routed around a pulley at each end. *40 CFR 60, Subpart OOO* "Bucket elevator" means a conveying device of nonmetallic minerals consisting of a head and foot assembly which supports and drives an endless single or double strand chain or belt to which buckets are attached. *40 CFR 60, Subpart OOO* "Building" means any frame structure with a roof. *40 CFR 60, Subpart OOO* "Capacity" means the cumulative rated capacity of all initial crushers that are part of the plant. *40 CFR 60, Subpart OOO* "Capture system" means the equipment (including enclosures, hoods, ducts, fans, dampers, etc.) used to capture and transport particulate matter generated by one or more affected facilities to a control device. *40 CFR 60, Subpart OOO* "Carbon dioxide equivalent or CO_2e" means the number of metric tons of CO_2 emissions with the same global warming potential as one metric ton of another greenhouse gas, and is calculated using Equation A-1 of 40 CFR 98. "Conveying system" means a device for transporting materials from one piece of equipment or location to another location within a plant. Conveying systems include but	1.3 98.2 60.671

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	are not limited to the following: Feeders, belt conveyors, bucket elevators and pneumatic systems. *40 CFR 60, Subpart OOO* "Crush or crushing" means to reduce the size of nonmetallic mineral material by means of physical impaction of the crusher or grinding mill upon the material. *40 CFR 60, Subpart OOO* "Crusher" means a machine used to crush any nonmetallic minerals, and includes, but is not limited to, the following types: Jaw, gyratory, cone, roll, rod mill, hammermill, and impactor. *40 CFR 60, Subpart OOO* "Department" shall mean the Jefferson County Department of Health. "Deviation" means any instance in which the permittee fails to meet any requirement or obligation established by regulation, including but not limited to any emission limitation, operating limit, work practice standard, or any permit term or condition, or fails to meet any term or condition adopted to implement an applicable requirement, including but not limited to emission limitations during periods of startup, shutdown or malfunction. A deviation is not always a violation. The determination of whether a deviation is a violation is at the discretion of the enforcement authority. "Emissions unit" means any part or activity of a stationary source that emits or has the potential to emit any regulated air pollutant or any pollutant listed under Section 112(b) of the Act. "Enclosed truck or railcar loading station" means that portion of a nonmetallic mineral processing plant where nonmetallic minerals are loaded by an enclosed conveying system into enclosed trucks or railcars. *40 CFR 60, Subpart OOO* "EPA" means the U.S. Environmental Protection Agency. "Fuel burning equipment" shall mean any equipment, device or contrivance and all appurtenances thereto, including ducts, breechings, fuel-feeding equipment, ash removal equipment, combustion controls, stacks and chimneys, used primarily, but not exclusively, to burn any type fuel for the purpose of indirect heating in which the material being heated is not contacted by and adds no substance to the products of combustion. "Fugitive dust" shall mean solid air-borne particulate matter emitted from any source other than a flue or stack. "Fugitive emissions" means any pollutant released to the atmosphere that is not discharged through a system of equipment that is specifically designed to capture pollutants at the source, convey them through ductwork, and exhaust them using forced ventilation. Fugitive emissions include pollutants released to the atmosphere through windows, doors, vents, or other building openings. Fugitive emissions also include pollutants released to the atmosphere through other general building ventilation or exhaust systems not specifically designed to capture pollutants at the source. For the purposes of 40 CFR 60, Subpart OOO, fugitive emissions means particulate matter that is not collected by a capture system and is released to the atmosphere at the point of generation. "GHG" shall be an acronym for greenhouse gases as listed in table A-1 of 40 CFR 98. "Grinding mill" means a machine used for the wet or dry fine crushing of any nonmetallic mineral. Grinding mills include, but are not limited to, the following types: Hammer, roller, rod, pebble and ball, and fluid energy. The grinding mill includes the air conveying system, air separator, or air classifier, where such systems are used. *40 CFR 60, Subpart OOO*	

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	"HAP" shall be an acronym for Hazardous Air Pollutant as listed in Appendix D of the Rules and Regulations. "Initial crusher" means any crusher into which nonmetallic minerals can be fed without prior crushing in the plant. *40 CFR 60, Subpart OOO* "Maximum process weight" shall mean the equipment manufacturer's or designer's guaranteed maximum (whichever is greater) process weight per hour. "Modification" shall mean any physical change in, or change in the method of operation of, an affected source which increases the amount of any air contaminant (to which a rule or regulation applies) emitted by such source or which results in the emission of any air contaminant (to which a rule or regulation applies) not previously emitted, except that: 1. Routine maintenance, repair, and replacement shall not be considered physical changes, and 2. The following shall not be considered a change in the method of operation: a. An increase in the production rate; b. An increase in hours of operation; c. Use of an alternate fuel or raw material. "Nonmetallic mineral" means any of the following minerals or any mixture of which the majority is any of the following minerals: 1. Crushed and Broken Stone, including Limestone, Dolomite, Granite, Traprock, Sandstone, Quartz, Quartzite, Marl, Marble, Slate, Shale, Oil Shale, and Shell. 2. Sand and Gravel. 3. Clay including Kaolin, Fireclay, Bentonite, Fuller's Earth, Ball Clay, and Common Clay. 4. Rock Salt. 5. Gypsum (natural or synthetic). 6. Sodium Compounds, including Sodium Carbonate, Sodium Chloride, and Sodium Sulfate. 7. Pumice. 8. Gilsonite. 9. Talc and Pyrophyllite. 10. Boron, including Borax, Kernite, and Colemanite. 11. Barite. 12. Fluorospar. 13. Feldspar. 14. Diatomite. 15. Perlite. 16. Vermiculite. 17. Mica. 18. Kyanite, including Andalusite, Sillimanite, Topaz, and Dumortierite. *40 CFR 60, Subpart OOO* "Nonmetallic mineral processing plant" means any combination of equipment that is used to crush or grind any nonmetallic mineral wherever located, including lime plants, power plants, steel mills, asphalt concrete plants, Portland cement plants, or any other facility processing nonmetallic minerals except as provided in §60.670 (b) and (c). *40 CFR 60, Subpart OOO* "NSPS" shall be an acronym for "New Source Performance Standards." "NESHAP" shall be an acronym for "National Emission Standards for Hazardous Air Pollutants."	

No.	General Permit Conditions	Regulations
	"Opacity" shall mean the degree to which emissions reduce the transmission of light and obscure the view of the background. "Owner or operator" shall mean any person who owns, leases, operates, controls or supervises an affected facility, article, machine, equipment, other contrivance, or source. "Particulate matter" shall mean any airborne finely divided material, except uncombined water, which is a liquid or solid at the conditions of the applicable test reference method. "Particulate matter emissions" shall mean all finely divided solid or liquid material, other than uncombined water, emitted to the ambient air as measured by applicable reference methods, or an equivalent or alternative method specified in 40 CFR 60, Appendix A. "Permittee" means the holder of an operating permit issued by the Department. "Process" shall mean any action, operation, or treatment of materials, including handling and storage thereof, which may cause discharge of an air contaminant, or contaminants, into the atmosphere, but excluding fuel burning and refuse burning. "Process weight" shall mean the total weight in pounds of all materials introduced into any specific process which may cause any discharge into the atmosphere. "Process weight per hour" shall mean the total weight of all materials introduced into any specific process that may cause any discharge of particulate matter. Solid fuels charged will be considered as part of the process weight, but liquid and gaseous fuels and combustion air will not. For a cyclic or batch operation, the process weight per hour will be derived by dividing the total process weight by the number of hours in one complete operation from the beginning of any given process to the completion thereof, excluding any time during which the equipment is idle. For a continuous operation, the process weight per hour will be derived by dividing the process weight for a typical period of time by that time period. "Production line" means all affected facilities (crushers, grinding mills, screening operations, bucket elevators, belt conveyors, bagging operations, storage bins, and enclosed truck and railcar loading stations) which are directly connected or are connected together by a conveying system. *40 CFR 60, Subpart OOO* "Responsible official" means a president, secretary, treasurer, or vice-president of the corporation in charge of a principal business function, or any other person who performs similar policy or decision-making functions for the corporation, or a duly authorized representative of such person if the representative is responsible for the overall operation of one or more manufacturing, production, or operating facilities applying for or subject to a permit and the delegation of authority to such representatives is approved in advance by the Department. "Rules and Regulations" shall mean the Jefferson County Board of Health Air Pollution Control Rules and Regulations. "Saturated material" means, for purposes of 40 CFR 60, Subpart OOO, mineral material with sufficient surface moisture such that particulate matter emissions are not generated from processing of the material through screening operations, bucket elevators and belt conveyors. Material that is wetted solely by wet suppression systems is not considered to be "saturated" for purposes of this definition. *40 CFR 60, Subpart OOO* "Screening operation" means a device for separating material according to size by passing undersize material through one or more mesh surfaces (screens) in series, and retaining oversize material on the mesh surfaces (screens). Grizzly feeders associated with truck	

No.	General Permit Conditions	Regulations
	dumping and static (non-moving) grizzlies used anywhere in the nonmetallic mineral processing plant are not considered to be screening operations. *40 CFR 60, Subpart OOO* “Size” means the rated capacity in tons per hour of a crusher, grinding mill, bucket elevator, bagging operation, or enclosed truck or railcar loading station; the total surface area of the top screen of a screening operation; the width of a conveyor belt; and the rated capacity in tons of a storage bin. *40 CFR 60, Subpart OOO* “Storage bin” means a facility for storage (including surge bins) of nonmetallic minerals prior to further processing or loading. *40 CFR 60, Subpart OOO* "Source" shall mean any building, structure, facility, installation, article, machine, equipment, device, or other contrivance which emits or may emit any air contaminant. Any activity which utilizes abrasives or chemicals for cleaning or any other purpose (such as cleaning the exterior of buildings) which emits air contaminants shall be considered a source. “Stationary Source” means any building, structure, facility or installation that emits or may emit any regulated pollutant as defined in Part 18.1 of the Rules and Regulations or any pollutant listed in Appendix D of the Rules and Regulations. “Transfer point” means a point in a conveying operation where the nonmetallic mineral is transferred to or from a belt conveyor except where the nonmetallic mineral is being transferred to a stockpile. *40 CFR 60, Subpart OOO* “Truck dumping” means the unloading of nonmetallic minerals from movable vehicles designed to transport nonmetallic minerals from one location to another. Movable vehicles include but are not limited to: Trucks, front end loaders, skip hoists, and railcars. *40 CFR 60, Subpart OOO* “Vent” means an opening through which there is mechanically induced air flow for the purpose of exhausting from a building air carrying particulate matter emissions from one or more affected facilities. *40 CFR 60, Subpart OOO* "Volatile Organic Compound" means any compound of carbon excluding carbon monoxide, carbon dioxide, carbonic acid, metallic carbides or carbonates, and ammonium carbonate, which participates in atmospheric photochemical reactions. This includes any such organic compound other than those listed under Part 1.3 of the Rules and Regulations and/or under 40 CFR §51.100(s)(1). “Wet material processing operation” means any of the following: 1. Wet screening operations (as defined in this section) and subsequent screening operations, bucket elevators and belt conveyors in the production line that process saturated materials (as defined in this section) up to the first crusher, grinding mill or storage bin in the production line; or 2. Screening operations, bucket elevators and belt conveyors in the production line downstream of wet mining operations (as defined in this section) that process saturated materials (as defined in this section) up to the first crusher, grinding mill or storage bin in the production line. *40 CFR 60, Subpart OOO* “Wet screening operation” means a screening operation at a nonmetallic mineral processing plant which removes unwanted material or which separates marketable fines from the product by a washing process which is designed and operated at all times such that the product is saturated with water. *40 CFR 60, Subpart OOO* In addition, the individual definitions as specified in each applicable rule, regulation, or standard shall be utilized where applicable.	

No.	General Permit Conditions	Regulations
	General Conditions	
2.	**Basis for Permit** This Operating Permit is issued based on provisions contained in all existing Jefferson County Board of Health Air Pollution Control Rules and Regulations (hereinafter called Rules and Regulations in this permit). In the event amendments, revisions or additions are made to these Rules and Regulations, it shall be the responsibility of the permit holder (hereinafter called the permittee in this permit) to comply with such new Rules and Regulations. Additions and revisions to the conditions in this Operating Permit will be made by the Jefferson County Department of Health (hereinafter called the Department), if necessary, to assure that the Rules and Regulations are not violated.	AL Act 612 AL Act 769
3.	**Authority** Nothing in this Operating Permit or conditions appended thereto shall negate any authority granted to this Department or the Health Officer pursuant to Alabama Air Pollution Control Act No. 769 (Regular Session, 1971) and Act No. 612 (Regular Session, 1982) or any regulations promulgated thereunder.	AL Act 612 AL Act 769
4.	**Acceptance of Permit** The permittee is required to bring the operation of a source within the standards of Paragraph 18.2.8(a) of the Rules and Regulations. Commencing construction or operation of the source shall be deemed acceptance of all conditions specified. A Title V Operating Permit with revised conditions may be issued upon receipt of a new application if the permittee demonstrates that the source can operate within the standard of Paragraph 18.2.8(a) of the Rules and Regulations under the revised conditions. This Title V permit supersedes all Title V Permits previously issued by the Department to this facility. The permittee shall return the expired permit(s) to the Department within 30 days after this permit is issued.	18.2.4
5.	**Compliance With Existing and Future Regulations** A. The permittee shall comply with all conditions of the Rules and Regulations. B. The permittee shall continue to comply with the applicable requirements with which the company has certified that it is already in compliance. C. The permittee shall comply in a timely manner with applicable requirements that become effective during the term of this permit, and shall follow any more detailed schedule of compliance set forth in the applicable requirement. D. The permittee shall be subject to MACT standards from the date of publication by EPA.	18.5.6 18.4.8(h) 18.7.3 18.7.6
6.	**Noncompliance** The permittee shall comply with all terms and conditions of the permit. Noncompliance with any term or condition of a permit will constitute a violation of the Act and the Rules and Regulations and may result in enforcement action; including but not limited to, permit termination, revocation and reissuance, or modification; or denial of a permit renewal application.	70.6(a)(6)(i) 18.5.6
7.	**Compliance Defense** The permittee shall not use as a defense in an enforcement action, that maintaining compliance with permit conditions would have required halting or reducing the permitted activity.	18.5.7
8.	**Credible Evidence** Any credible evidence or information relevant to whether a source may have been in compliance with applicable requirements can be used to establish whether or a not an owner or operator has violated or is in violation of any rule or standard in these Regulations and/or any applicable provisions of 40 CFR 60.	1.18 60.11(g)

No.	General Permit Conditions	Regulations
9.	**Circumvention** No person shall cause or permit the installation or use of any device or any means which, without resulting in reduction in the total amount of air contaminant emitted, conceals or dilutes any emission of air contaminants which would otherwise violate these rules and regulations.	1.15 60.12
10.	**Bypass of Control Equipment Prohibited** The permittee shall not bypass, without prior approval from this Department, any air pollution control device. The permittee shall not shut down any air pollution control device unless such shutdown is accompanied by the corresponding shutdown of the respective source which the device is intended to control.	18.2.4
11.	**Shutdown of Control Equipment** In the case of shutdown of air pollution control equipment for scheduled maintenance, the intent shall be reported to this Department at least 24 hours prior to the planned shutdown unless the scheduled shutdown is accompanied with the shutdown of the source being controlled, including the information listed in Section 1.12.1.	1.12.1
12.	**Maintenance of Controls** A. The permittee shall equip each fabric filter particulate matter control device with a pressure differential measuring device to measure the pressure drop across the filter media in the control device. The device shall be installed in a location which is easily accessible for inspection by Department personnel. B. All air pollution control devices and capture systems for which this permit is issued shall be maintained and operated at all times in accordance with the manufacturer's specifications or alternative procedures approved by the Department so as to minimize the emissions of air contaminants. Procedures for ensuring that the above equipment is properly operated and maintained so as to minimize the emissions of air contaminants shall be maintained near the source and provided to the Department upon request. C. The permittee shall conduct routine inspections on all required control equipment. Record of all inspection results and repair works performed on the pollution control device shall be maintained near the source and provided to the Department upon request. These records shall be retained in a permanent form suitable for inspection in a format approved by the Department for at least 5 years following the date of each occurrence. At a minimum, the most recent 2 years of data shall be kept on site. The remaining 3 years of data may be retained off site.	18.2.4 18.5.3(a)(2)
13.	**Nothing in this Operating Permit shall alter or affect the following:** A. The provisions of Section 303 of the Act (emergency orders), including the authority of the Administrator under that section; B. The liability of an owner or operator of a source for any violation of applicable requirements prior to or at the time of permit issuance; C. The applicable requirements of the acid rain program, consistent with Section 408(a) of the Act; or D. The ability of EPA to obtain information from a source pursuant to Section 114 of the Act.	18.10.3
14.	**Additional Information and Corrected Information** The permittee shall submit any additional information to the Department to supplement or correct an application promptly after becoming aware of the need for additional or corrected information. Also, the permittee shall submit additional information concerning any new requirements which have become applicable after a complete application has been filed but before a draft permit is released. Any change in the information already provided pursuant to 40 CFR 63 shall be provided in writing within 15 calendar days after the change.	18.4.7 63.9(j)

No.	General Permit Conditions	Regulations
15.	**Display and Availability of Permit** The permittee shall keep this Operating Permit under file or on display at all times at the site where the source is located and shall make the permit available for inspection by any and all persons who may request to see it.	18.2.2
16.	**Payment of Fees** The permittee must have paid all fees required by the Rules and Regulations or the Operating Permit is not valid. Payment of operating permit fees required under Chapter 16 of the Rules and Regulations shall be made on or before the date specified under Section 16.5.1 of the Rules and Regulations of each year. Failure to make payment of fees within 30 days of the specified date shall cause the assessment of a late fee of 3% (of the original fee) per month or fraction thereof.	18.5.11 16.1 16.4 16.5
17.	**Transfer** This permit is not transferable, whether by operation of law or otherwise, either from one location to another, from one piece of equipment to another or from one person to another except as provided in Subparagraph 18.13.1(a)(5) of the Rules and Regulations.	18.2.6
18.	**New Air Pollution Sources and Changes to Existing Units** A new permit application must be made for new sources, replacements, alterations or design changes which may result in the issuance of, or an increase in the issuance of, air contaminants, or the use of which may eliminate or reduce or control the issuance of air contaminants. For any new source or modification of an existing source subject to 40 CFR 63, the permittee shall submit an application as required by 63.5.	1.5.15 60.7(a)(4) 63.5
19.	**Construction Not In Accordance with Applications** If the source permitted herein has not been constructed in accordance with the Operating Permit application and if the changes noted are of a substantial nature in that the amount of air contaminants emitted by the source may be increased or in that the effect is unknown, then the Operating Permit shall be revoked. No further application for an Operating Permit shall be accepted until the source has been reconstructed in accordance with the Operating Permit or until the permittee has proven to the Department that the change will not cause an increase in the emission of air contaminants.	18.2.8(e)
20.	**Expiration** A source's right to operate shall terminate upon the expiration of this Operating Permit unless a timely complete renewal application has been submitted at least 6 months, but not more than 18 months before the date of expiration or the Department has taken final action approving the source's application for renewal by the expiration date. The expiration date of this Operating Permit is printed on the first page of this permit.	18.4.3 18.5.2 18.12.2(b)
21.	**Revocation** This Operating Permit may be revoked for any of the following reasons: A. Failure to comply with any conditions of the permit; B. Failure to establish and maintain such records, make such reports, install, use and maintain such monitoring equipment or methods; and sample such emissions in accordance with such methods at such locations, intervals and procedures as may be prescribed in accordance with Section 1.9.2 of the Rules and Regulations; C. Failure to comply with any provisions of any Department administrative order issued concerning the permitted facility; D. Failure to allow entry and inspections by properly identified Department personnel; E. Failure to comply with the Rules and Regulations; or F. For any other cause, after a hearing which establishes, in the judgment of the Department, that continuance of the permit is not consistent with the purpose of the Act or Rules and Regulations.	18.2.9
22.	**Severability** In case of legal challenge to any portion of this Title V Operating Permit, the remainder of the permit conditions shall continue in force.	18.5.5

No.	General Permit Conditions	Regulations
23.	**Reopening for Cause** Under any of the following circumstances, this Operating Permit will be reopened and revised prior to the expiration of the permit: A. Additional applicable requirements under the Clean Air Act become applicable to the permittee with a remaining permit term of 3 or more years. Such a reopening shall be completed no later than 18 months after promulgation of the applicable requirements. No such reopening is required if the effective date of the requirement is later than the date on which this permit is due to expire. B. Additional requirements (including excess emissions requirements) become applicable to an affected source under the acid rain program. Upon approval by the Administrator, excess emissions offset plans shall be deemed to be incorporated into this permit. C. The Department, ADEM or EPA determines that this permit contains a material mistake or that inaccurate statements were made in establishing the emissions standards or other terms or conditions of this permit. D. The Administrator, ADEM or the Department determines that this permit must be revised or revoked to assure compliance with the applicable requirements.	18.13.5
24.	**Changes or Termination for Cause – No Stay of Permit Conditions** This permit may be modified, revoked, reopened and reissued or terminated for cause. The filing of a request by the permittee for a permit modification, revocation and reissuance or termination, or of a notification of a planned change or anticipated noncompliance will not stay any permit condition.	18.5.8
25.	**Furnishing Requested Information** The permittee shall furnish to the Department within 30 days, or for such other reasonable time as the Department may set, any information that the Department may request in writing copies of records required to be kept by the permit to determine whether cause exists for modifying, revoking and reissuing, or terminating the permit or to determine compliance. Upon receiving a specific request, the permittee shall also furnish to the Department copies of records required to be kept by the permit. For information claimed to be confidential, the permittee may furnish such records directly to the Administrator along with a claim of confidentiality.	18.5.10 70.6(a)(6)(v)
26.	**Entry and Inspections** The permittee shall allow the Department or authorized representative, upon presentation of credentials and other documents that may be required by law, to conduct the following: A. Enter upon the permittee's premises where a source is located or emissions related activity is conducted or where records are kept pursuant to the permit conditions; B. Review and/or copy at reasonable times any records kept pursuant to the permit conditions; C. Inspect at reasonable times any facilities, equipment (including monitoring and air pollution control equipment), practices or operations required by the permit; and D. Sample or monitor at reasonable times substances or parameters for the purpose of assuring compliance with the permit or other applicable requirements. Denial of access upon proper identification is grounds for permit revocation.	1.8 18.7.2 18.2.9(d)
27.	**Flexibility Changes** Certain changes (per Section 502 (b)(10) of the Act) can be made to this Operating Permit without a revision if no modification as defined in the Rules and Regulations would occur and the changes do not exceed the emissions allowed under this permit provided that written notification is sent to the Department and EPA at least 7 days before the change is made. The written notification shall describe the proposed change, the date of the change, any change in emissions, and any term or condition of the permit which is no longer valid due to the change.	18.13.2

No.	General Permit Conditions	Regulations
28.	**Minor Permit Modifications** Minor permit modification procedures may be used only for those permit modifications that: A. Do not violate any applicable requirement; B. Do not involve significant changes to existing monitoring, reporting, or record keeping requirements in the permit; C. Do not require or change a case-by-case determination of an emission limitation or other standard, or a source-specific determination for temporary sources of ambient impacts, or a visibility or increment analysis; D. Do not seek to establish or change a permit term or condition for which there is no corresponding underlying applicable requirement and that the source has assumed to avoid an applicable requirement to which the source would otherwise be subject. Such terms and conditions include: 1. A federally enforceable emissions cap assumed to avoid classification as a modification under any provision of Title I of the Act; and 2. An alternative emissions limit approved pursuant to regulations promulgated under §112(i)(5) of the Act; E. Are not modifications under any provision of title I of the Act; and F. Are not required by Section 18.13.4 to be processed as a significant modification. G. Notwithstanding Subparagraph 18.13.3(a)(1) of this regulation, minor permit modification procedures may be used for permit modifications involving the use of economic incentives, marketable permits, emissions trading, and other similar approaches, to the extent that such minor permit modification procedures are explicitly provided for in an applicable implementation plan or in applicable requirements promulgated by EPA. An application requesting the use of minor permit modification procedures shall meet the requirements of Section 18.4.8 relative to the modification and shall include the information listed at 18.3.3(b). If the Department notifies the source that the modification does not qualify as a minor modification within 10 days after receiving the application, then the source shall apply for the change as a significant modification. Ten days after the application has been submitted to the Department, the source may make the change for which they applied unless the change does not qualify as a minor modification. After the source makes the change and until the Department takes final action on the permit application, the source must comply with both the applicable requirements governing the change and the proposed permit terms and conditions. During this time period, the source need not comply with the existing permit terms and conditions it seeks to modify. However, if the source fails to comply with its proposed permit terms and conditions during this time period, the existing permit terms and conditions it seeks to modify may be enforced against it. A permit shield granted under Part 18.10 shall not extend to minor permit modifications. The Department may not issue a final permit modification until after EPA's 45-day review period or until EPA has notified the Department that EPA will not object to issuance of the permit modification, whichever is first.	18.13.3
29.	**Significant Modifications** Modifications that are significant modifications under the PSD (Part 2.4) or nonattainment (Part 2.5) regulations, are modifications under the NSPS or NESHAPS regulations, or otherwise do not meet the requirements for minor permit modifications from Section 18.13.3 of the Rules and Regulations must be incorporated in the Operating Permit using the requirements for sources initially applying for an Operating Permit, including those for applications, public participation, review by affected States, review by ADEM, and review by EPA, as described in Parts 18.4 and 18.15 of the Rules and Regulations.	18.13.4
30.	**Off-Permit Changes** Any change which is not addressed or prohibited in the federally enforceable terms and conditions of the permit may be designated by the owner or operator as an off-permit	18.14

No.	General Permit Conditions	Regulations
	change, and may be made without revision to the federally enforceable terms and conditions of the operating permit, provided that the change: A. Meets all applicable requirements; B. Does not violate any federally enforceable permit term or condition; C. Is not subject to any requirement or standard under title IV of the Clean Air Act; and D. Is not a modification under title I. The permittee must comply with all applicable state permitting and preconstruction review requirements. Any application pertaining to a change designated by the applicant as an off-permit change shall be submitted by the applicant to EPA in fulfillment of the obligation to provide written notice, provided, that no change meeting the criteria for an insignificant activity or trivial activity is subject to the procedures set forth in this condition.	
31.	**Property Rights and Privileges** No property rights of any sort or any exclusive privilege are conveyed through the issuance of this Operating Permit.	18.5.9
32.	**Economic Incentives** No permit revision shall be required under any approved economic incentives, marketable permit emissions trading and other similar programs or processes for changes that are provided for in the Operating Permit.	18.5.12
33.	**Emission Reduction Plan** Upon notification by this Department, the permittee shall submit an Air Pollution Emission Reduction Plan in a format approved by this Department concerning air contaminant emissions reductions to be taken during declared air pollution episodes.	18.2.8(b)
34.	**Obnoxious Odors** This Operating Permit is issued with the condition that, should obnoxious odors arising from the plant operations be verified by Department inspectors, measures to abate the odorous emissions shall be taken upon determination by this Department that these measures are technically and economically feasible.	6.2.3
35.	**Title IV Requirements (Acid Rain Program)** Where an applicable requirement of Chapter 18 of the Rules and Regulations is more stringent than an applicable requirement of regulations promulgated under Title IV of the Act (the acid rain program), both provisions shall be incorporated into the permit and shall be enforceable by the Department. Emissions exceeding any allowances that the permittee lawfully holds under title IV of the Act or the regulations promulgated thereunder are prohibited. No permit revision shall be required for increases in emissions that are authorized by allowances acquired pursuant to the acid rain program, provided that such increases do not require a permit revision under any other applicable requirement. No limit shall be placed on the number of allowances held by the permittee, however, allowances may not be used as a defense to noncompliance with any other applicable requirement. Any such allowance shall be accounted for according to the procedures established in the regulations promulgated pursuant to Title IV of the Act.	18.5.1(b) 18.5.4
36.	**Title VI Requirements (Refrigerants)** Any facility having appliances or refrigeration equipment, including air conditioning equipment, which use Class I or Class II ozone-depleting substances such as chlorofluorocarbons and hydrochlorofluorocarbons listed as refrigerants in 40 CFR 82, Subpart A, Appendices A and B, shall service, repair, and maintain such equipment according to the work practices, personnel certification requirements, and certified recycling and recovery equipment specified in 40 CFR 82, Subpart F. A. No person shall knowingly vent or otherwise release any Class I or Class II substance into the environment during the repair, servicing, maintenance, or disposal of any such device except as provided in 40 CFR 82, Subpart F. B. The responsible official shall comply with all reporting and recordkeeping requirements of 40 CFR §82.166. Reports shall be submitted to the U.S. EPA and the Department as required.	40 CFR 82 18.1.1(e)(10) 18.1.1(w)(4)

No.	General Permit Conditions	Regulations
37.	**Asbestos Demolition and Renovation** Demolition and renovation activities at this facility are subject to the National Emission Standard for Asbestos, 40 CFR 61, Subpart M. To determine the applicable requirements of the Standard, the permittee must thoroughly inspect the affected part of the facility where the demolition or renovation operation will occur for the presence of asbestos, including Category I and Category II nonfriable asbestos-containing materials, prior to the commencement of the demolition or renovation operation. The permittee shall comply with all applicable sections of the Standard, including notification requirements, emission control and waste disposal procedures. The permittee shall also ensure that anyone performing asbestos-related work at the facility is trained and certified according to the Alabama Department of Environmental Management's regulations for Asbestos Contractor Certification.	61.145 61.150 14.2.12 14.2.12(a)(1)
38.	**Prevention of Accidental Releases** The permittee shall comply with the requirements of §112(r) of the Act and 40 CFR 68 to prevent accidental releases of any substance listed pursuant to §112(r) or any other extremely hazardous substance.	112(r) 40 CFR 68
39.	**Testing** A source emissions test may be required by this Department at any time. The Administrator may require a performance test for a source subject to NESHAP at any time authorized by section 114 of the Clean Air Act. The permittee shall provide each point of emission with sampling ports, ladders, stationary platforms, and other safety equipment to facilitate testing. The permittee shall notify the Department in writing at least 30 days prior to conducting any required emissions test on any source. This notice shall state the source to be tested, the proposed time and date(s) of the test, the purpose of the test, and the methods to be used. The methods for such testing shall be in accordance with procedures established by 40 CFR 51, 40 CFR 60, 40 CFR 61, 40 CFR 63 and any emissions unit specific permit requirements. Performance testing to demonstrate compliance with an NSPS or NESHAP shall include a test method performance audit as required by §60.8(g) or §63.7(c)(2)(iii)(A), respectively. The permittee shall submit the results of all emissions tests in written form to this Department within a time period specified by this Department; however, not to exceed 30 days from the test completion date unless a longer period is specified in the applicable subpart.	1.9.1 1.10.3 18.2.5 18.2.8(c) 60.8(d) 60.8(e) 60.8(g) 63.7(a)(3) 63.7(b)-(d) 63.9(e) 63.9(f) 63.10(d)
	Facility-Specific General Conditions	
40.	**Fugitive Dust** A. The permittee shall take reasonable precautions to prevent dust from any operation, process, materials handling and storage, transportation activity (including dust from paved and unpaved roads), or construction activity (including but not limited to the use, repair, alteration, and demolition of buildings) at the facility from becoming airborne. B. The permittee shall not cause or allow the discharge of visible emissions which travel beyond the property line of the facility. C. When dust, fumes, gases, mist, odorous matter, vapors, or any combination thereof escape from a building or equipment in such a manner and amount as to cause a nuisance or to violate any rule or regulation, the Health Officer may order that the building or equipment in which processing, handling and storage are done be tightly closed and ventilated in such a way that all air and gases and air or gas-borne material leaving the building or equipment are treated by removal or destruction of air contaminants before discharge to the open air. Airborne fugitive dust emissions shall be prevented and addressed as needed and as appropriate to weather conditions using any or all of the following pre-approved control measures specific to the following sources of fugitive dust: A. Plant roads shall be maintained by the use of a water truck, a road sweeper, and sprinklers;	6.2.1 6.2.2 6.2.3 18.2.4 18.5.3

No.	General Permit Conditions	Regulations
	B. Fugitive dust from material storage shall be controlled by shielding the material from wind within a building or by wet suppression; C. Unpaved plant or haul roads and grounds will be maintained in the following manner so that dust will not become airborne: 1. By wet suppression any time the surface of the road is sufficiently dry to allow the creation of dust emissions by the action of wind or vehicular traffic; 2. By reducing the speed of vehicular traffic to a point below that at which dust emissions are created; 3. By paving; or 4. By any combination of the above methods which results in the prevention of dust becoming airborne from the ground or road surface. Wet suppression may be accomplished by the application of water with or without the addition of surfactants, wetting agents or other additives to increase the effectiveness of wet suppression. Manufacturer's documentation of the contents of any chemical, surfactant, wetting agent, or other additive used for dust suppression shall be maintained and readily made available upon request by the Department. Other dust control methods not listed above may be used subject to Department approval.	
	Recordkeeping, Reports and Notifications for Entire Facility	
41.	**General Recordkeeping Requirements** The permittee shall keep records of facility-wide operations, activities and materials which have the potential to release pollutants into the atmosphere in sufficient detail to show compliance with permit conditions and to allow the annual calculation of emissions of regulated pollutants and HAP from each point and fugitive source and activity at the facility. In addition to the records required in the conditions specific to each emission unit, the permittee shall maintain records of the following: A. All reports and notifications submitted to comply with this permit; B. Reports of all required performance testing, monitoring, and sampling; C. Records of all required monitoring data, including; 1. The date, place (as defined in the permit), and time of all sampling or measurements; 2. The date(s) analyses were performed; 3. The company or entity that performed the analyses; 4. The analytical techniques or methods used; 5. The results of all analyses; and 6. The operating conditions that existed at the time of sampling or measurement. D. All support information, including all calibration and maintenance records and all original strip-chart recordings, for continuous monitoring instrumentation and copies of all reports required by the permit for at least 5 years from the date of the monitoring sample, measurement, report, or application. E. Available EDS, SDS, and/or other manufacturer supplied contents information relating to the VOC and HAP contents of materials used at the facility; F. For air filtration devices, the date of filter replacement and the characteristics of the replacement filter materials; and G. All spills or other mishaps of VOC/HAP materials. The record shall include the date, time, and quantity (gallons or pounds) of VOC/HAP materials involved in the spill or mishap. The permittee shall document the amount of VOC/HAP materials recovered and the amount that evaporated to the atmosphere.	1.9.1 18.5.3 18.7.1 70.6(a)(3)(C)

No.	General Permit Conditions	Regulations
42.	**Retention of Records** Records of all required monitoring data, fuel consumption, analyses, reports, safety data sheets (SDS), and other support information shall be retained for a minimum of 5 years from the date when the record was generated. Records must be readily accessible (on-site or retrievable within 4 hours) and suitable for inspection. Records may be kept in hard copy or electronically. Specific records to be made and retained are listed in the emission unit conditions.	18.5.3(b) 60.758
43.	**Timing for Submission of Reports and Notifications** The permittee shall submit all reports and notifications required by any permit condition and by any applicable NESHAP and/or NSPS to the Department in electronic form. The reports may be sent by U. S. mail or by electronic mail; however, a paper copy with a "wet-ink" signature is required to be submitted to the Department within 1 week of any electronic submission. Reports submitted by US mail shall be postmarked on or before the due date. Reports submitted by electronic mail shall be received on or before the due date. **Any application form, report or compliance certification required to be submitted pursuant to the Title V program regulations shall contain a certification by a responsible official that meets the requirements of Section 18.4.9 of the Rules and Regulations.** The certification shall state that, based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate and complete. Each report shall identify the company name and address, the beginning and ending dates of the reporting period, and the date of report completion. The records required for each emissions unit shall be used in preparing these reports and notifications. The annual compliance certification shall be submitted to the following 2 agencies: Jefferson County Department of Health Air Pollution Control Program P.O. Box 2648 Birmingham, Alabama 35202-2648 and to EPA Region IV Atlanta Federal Center 61 Forsyth Street Atlanta, GA 30303 Submissions to EPA may be (or may be required to be) submitted electronically in compliance with the Cross-Media Electronic Reporting Rule (CROMERR, 40 CFR 3). The information to be included in each report is listed in General Conditions 44 – 46 below. The following reports and notifications are required to be submitted on the following schedule: A. **Annual Production and Emissions Report**, due February 10 of each year covering the previous calendar year. B. **Annual Title V Compliance Certification**, covering the period from March 28 to March 27 of the following year, shall be submitted by April 27 each calendar year. C. **Semi-Annual Monitoring and Compliance Report**, covering the periods of January 1 – June 30 (due July 30) and July 1 – December 30 (due January 30). D. **Episodic prompt reporting of malfunctions, deviations, and violations,** as follows. 1. Deviations and violations of any permit condition, including but not limited to emission limitations, within 2 working days of the deviation or discovery of a violation at any source of air pollution. 2. Malfunctions shall be reported within 24 hours. The permittee shall notify the Department when the condition causing failure or breakdown has been corrected, and such source, equipment, or facility is again in operation. E. **Notifications** as follows: 1. Notify the Department of the startup date of each affected facility under 40 CFR 60, Subpart OOO postmarked within 15 days of startup and shall include a description of each affected facility, equipment manufacturer, and serial number of the equipment, if available.	18.4.9 18.5.3(c) 18.7.1 18.7.5 18.7.6 60.8 60.675(g) 60.676(f) 60.676(i)

No.	General Permit Conditions	Regulations
	2. Any physical or operational change which may increase the emission rate of any air pollutant regulated by an NSPS submitted 60 days or as soon as practicable before the change is made per §60.7(a)(4). 3. Performance testing at least 30 days prior to scheduled testing, except if the performance test will include only Method 9 for demonstrating compliance with 40 CFR 60, Subpart OOO, 7 days of notice is sufficient, or if a longer time frame is allowed by the applicable rule. 4. Notify the Department in writing within 2 working days of becoming subject to a federal Maximum Achievable Control Technology (MACT) standard pursuant to Section 112 of the Act (local requirement). F. **Results of any required testing or visible emissions observations** within 30 days of completion, unless a longer period is specified in the applicable regulation. G. **Compliance Schedule Progress Reports,** if a compliance schedule is required.	
44.	**Contents of Title V Submissions** **Any document or report submitted under this requirement shall contain a certification of truth, accuracy, and completeness by a responsible official that meets the requirements of Section 18.4.9 of the Rules and Regulations.** The certification shall state that, based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate and complete. These documents shall be submitted to the Department and to EPA. A. **Annual Production Data and Emissions Report** consisting of the production records required in the following emissions unit conditions, along with the information for facility-wide activities below. The permittee shall make calculations of the previous year's actual emissions (point and fugitive) of all regulated air pollutants, as defined in Paragraph 18.1.1(w) of the Rules and Regulations, which emanate from the facility. These calculations shall indicate the emissions from each emissions unit permitted herein, fugitive emissions from on-site vehicular traffic and combustion of motor fuels (diesel, gasoline, and natural gas), and emissions from spills mishaps, and other activities not elsewhere included. Documentation on the basis of the calculations, including but not limited to, emission factors and relevant production data shall be included in the report. Concurrence with the calculations by the Department shall be the basis for annual emissions fees in accordance with Chapter 16 of the Rules and Regulations. Specific reporting requirements are as follows: 1. Condition No. 10 for Clay Processing; 2. Condition No. 9 for Tunnel Kilns and Dryers; 3. Condition No. 5 for Other Particulate Matter Sources; 4. Hours of operation for the following fabric filters/baghouses: i. Baghouse DC01 – 29,300 SCFM ii. Baghouse DC02 – 25,000 SCFM iii. Baghouse DC03 – 10,000 SCFM iv. Baghouse DC04 – 2,500 SCFM v. Baghouse DC05 – 10,000 SCFM vi. Baghouse DC06 – 1,750 SCFM vii. Fresh Reagent Silo Cartridge Filter – 1,500 SCFM viii. Spent Reagent Silo Cartridge Filter – 648 SCFM ix. (2) Sand Storage Silo Cartridge Filters – 1,000 SCFM (ea) x. Dry Injection Fabric Filter (DIFF) – 44,494 SCFM 5. The annual throughput in gallons, the chemical or trade name, average storage temperature in degrees Fahrenheit, and average true vapor pressure in psia of the contents of each storage tank with a capacity greater than 1,000 gallons; and 6. The quantity of VOC and/or HAP material emitted to the atmosphere as a result of spills and other mishaps.	1.5.15 1.9 1.12.2 18.2.4 18.4.9 18.7.1 18.7.5 18.5.3(c)(2) 60.7 60.757(b) 64.9(a) 70.6(a)(3)

No.	General Permit Conditions	Regulations
	B. **Title V Annual Compliance Certification** certifying compliance with terms and conditions contained in the permit, including emissions limitations, standards and work practices. The permittee shall provide a means for monitoring the compliance of its air pollution sources with the emissions limitation, standards and work practices listed or referenced within this permit. The compliance certification shall include the following: 1. The identification of each term or condition of this permit that is being certified; 2. The emission unit or units to which the term or condition applies; 3. The compliance status; 4. Whether compliance has been continuous or intermittent; 5. The method(s) used for determining the compliance status of the source, currently and over the reporting period consistent with the Rules and Regulations; and 6. Such other facts as the Department may require to determine the compliance status of the source, including but not limited to identifying each deviation that occurred. C. **Semi-Annual Monitoring and Compliance Reports** shall include the following: 1. If there are no deviations from any permit condition, a statement that there were no deviations during the reporting period. 2. All instances of deviations from any permit term, condition or regulation, including the probable cause of such deviations, and any corrective actions or preventive measures taken; 3. A summary of information on the number, duration and cause of any monitoring observations which were not performed at the required interval; 4. For Emissions Unit No. 003, a CAM Summary Report for 40 CFR 64, including, at a minimum, the information required under §70.6(a)(3)(iii) and the following information, as applicable: i. A summary of information on the number, duration and cause (including unknown cause, if applicable) of excursions or exceedances, as applicable, and the corrective actions taken; and ii. A summary of information on the number, duration and cause (including unknown cause, if applicable) for monitoring downtime incidents (other than downtime associated with zero or daily calibration checks, if applicable). iii. A description of the actions taken to implement a QIP during the reporting period as specified in §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. D. **Prompt Reporting of Malfunctions, Deviations, and Violations**, as follows: 1. Deviations and violations of any permit condition, including but not limited to emission limitations, within 2 working days of the deviation or discovery of a violation at any source of air pollution. The report shall include the probable cause of any deviation and any corrective actions or preventative measures that were taken. 2. Malfunctions shall be reported within 24 hours and a statement shall be provided giving all pertinent facts, including the estimated duration of the breakdown. The permittee shall notify the Department when the condition causing failure or breakdown has been corrected, and such source, equipment, or facility is again in operation.	
45.	**<u>Compliance Schedule Progress Reports (if required)</u>** If any air pollution source owned or operated by the permittee is not in compliance with the emissions limitations, standards and work practices listed or referenced within this	18.4.8(h) 18.7.3 18.7.4

No.	General Permit Conditions	Regulations
	permit, the permittee shall submit progress reports including a statement of truth, accuracy and completeness of these reports shall be certified by a responsible official for that air pollution source. The first progress report shall be submitted within 3 months after the Operating Permit issuance date or within 3 months of the permittee or Department determining that the air pollution source is not in compliance. Subsequent reports shall be submitted every 6 months following the initial report. The progress reports shall contain the following: A. Dates for achieving the activities, milestones, or compliance required in the schedule of compliance, and/or dates when such 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 preventive or corrective measures adopted.	
46.	**Mandatory Greenhouse Gas Reporting (for informational purposes only)** The permittee shall be aware that the facility may be required to report emissions of greenhouse gases directly to EPA under the Mandatory Greenhouse Gas Reporting rules. The reporting threshold is annual greenhouse gas emissions equal to 25,000 metric tons CO_2e, calculated using the methods presented in 40 CFR 98. Mandatory greenhouse gas reporting is made directly to EPA and is not an enforceable requirement of this Title V Operating Permit. It is the permittee's responsibility to determine whether reporting is required each calendar year.	40 CFR 98

Summary Tables

Emission Limits Summary Table			
Emissions Source	**Parameter**	**Limit**	**Monitoring**
Clay Crusher	Opacity	15%	Monthly visible emissions observations, recordkeeping, proper operation and maintenance of fabric filters
	PM	As calculated by the equations of Part 6.4 of the Rules and Regulations	
Clay Grinding and Storage Building	Opacity	7%	
	PM	As calculated by the equations of Part 6.4 of the Rules and Regulations	
Tunnel Kilns and Dryers	Opacity	20%	Daily visible emissions observations
	PM	As calculated by the equations of Part 6.4 of the Rules and Regulations	Recordkeeping, proper operation and maintenance of DIFF
	SO_2	56.85 lb/hr (less than 250 tons per year)	CAM
Baghouse DC03 **Storage Silos** **Kiln Car Cleaning Station** **Sand and Slurry Coating, Mixing, Forming, Cutting, and Stacking Operations**	Opacity	20%	Recordkeeping, proper operation and maintenance of fabric filters
	PM	As calculated by the equations of Part 6.4 of the Rules and Regulations	

Fabric Filter Summary Table		
Fabric Filter Identification	**Flow Rate (SCFM)**	**Emissions Source Controlled**
Dry Injection Fabric Filter (DIFF)	44,494	Tunnel Kilns
DC01	29,300	Clay Grinder Clay Conveyors
DC02	25,000	Clay Screens Clay Conveyors
DC03	10,000	Blending Hoppers
DC04	2,500	Sand Coating and Slurry Mixing
DC05	10,000	Kiln Car Cleaning Station
DC06	1,750	Scrap Belt Transfer to Pug Mill
Fresh Reagent Silo Cartridge Filter	1,500	Fresh Reagent Silo
Spent Reagent Silo Cartridge Filter	648	Spent Reagent Silo
Sand Storage Silos Cartridge Filters	1,000 (ea)	Sand Storage Silos

Federally Enforceable Conditions for Clay Processing

Emissions Unit No.	Emissions Unit Description	Installation Date	Control Device
001	Primary Clay Crusher	1989	N/A
	Conveyor 1	1960's	N/A
	Conveyor 2	1960's	N/A
	Conveyor 3	1960's	N/A
002	Grinder	2002	DC01
	Screens	1960's	DC02
	(4) Blending Feed Hoppers	2011	DC03
	Flush Out Conveyor	2017	N/A
	Regrind Conveyor	2017	N/A
	Conveyor 1	1960's	N/A
	Conveyor 2	1960's	N/A
	Conveyor 3	1960's	N/A
	Conveyor 4	1960's	DC02
	Conveyor 5	2011	DC02
	Conveyor 6	1960's	DC01, DC02
	Conveyor 7	1960's	DC02
	Conveyor 8	1960's	DC02
	Conveyor 9	1960's	DC02
	Conveyor 10	1960's	DC02
	Conveyor 11	1960's	DC02
	Conveyor 12	1960's	DC01, DC02
	Conveyor 13	1960's	DC01, DC02
	Conveyor 14	1960's	DC01
	Conveyor 15	1960's	DC02
	Conveyor 16	1960's	DC02
	Conveyor 17	2011	N/A
	Conveyor 18	2011	N/A
	Conveyor 19	2011	N/A
	Conveyor 20	2011	N/A
	Conveyor 21	2011	N/A
	Conveyor 22	2011	N/A
	Conveyor 23	2011	N/A
	Conveyor 24	2011	N/A
	Conveyor 25	1960's	N/A

No.	Federally Enforceable Conditions for Clay Processing	Regulations
1.	**Applicability** The emissions units permitted herein consist of the primary clay crusher and its associated material handling and transfer points and the clay grinding and storage building. The emission sources contained in the clay grinding and storage building are indicated in the above table. All emission sources are subject to Parts 6.1, "Visible Emissions," and Part 6.4, "Process Industries – General," of the Rules and Regulations. The primary clay crusher and clay grinding and storage building are also subject to 40 CFR 60, Subpart OOO, "Standards of Performance for Nonmetallic Mineral Processing Plants," as detailed in subsequent conditions.	6.1 6.4 60.670(a)
2.	**40 CFR 60, Subpart OOO Applicability** The affected facilities under Subpart OOO are each crusher, grinding mill, screening operation, bucket elevator, belt conveyor, bagging operation, storage bin, enclosed truck or railcar loading station located at fixed or portable nonmetallic mineral processing plants	60.670(a) 60.670(c)(3) 60.670(e) 60.670(f)

No.	Federally Enforceable Conditions for Clay Processing	Regulations
	that commenced construction, modification, or reconstruction after August 31, 1983. Nonmetallic mineral processing plants are any combination of equipment that is used to crush or grind any nonmetallic mineral, as defined under §60.671. Common clay plants with capacities, as defined under §60.671, greater than 10 tons per hour are subject to Subpart OOO. Table 1 contains the provisions of 40 CFR 60, Subpart A that applies to affected facilities under Subpart OOO. The following sources have been determined to be subject to Subpart OOO based on installation date. · Primary Clay Crusher · Conveyor 5. The methods of §60.675 shall be used if performance testing is required. Opacity testing shall be in accordance with §60.675(c). A performance test report shall be submitted to the Department as required by §60.676(f). For any new affected source under Subpart OOO, initial performance testing is required within 60 days after achieving the maximum production rate at which the affected source will be operated, but not later than 180 days after initial startup.	60.671
3.	**40 CFR 60, Subpart OOO Equipment Replacement, Modification, and Reconstruction** If any of the following emissions sources are modified or reconstructed, as defined under §60.14 and §60.15, it could become subject to 40 CFR 60, Subpart OOO. · Primary Clay Crusher (could become subject to additional requirements) · Conveyor 1 · Conveyor 2 · Conveyor 3 · Conveyor 4 · Conveyor 6 · Conveyor 7 · Conveyor 8 · Conveyor 9 · Conveyor 10 · Conveyor 11 · Conveyor 12 · Conveyor 13 · Conveyor 14 · Conveyor 15 · Conveyor 16 · Flush Out Conveyor · Regrind Conveyor However, pursuant to §60.670(d), the permittee may maintain exemption from additional requirements under Subpart OOO, as follows: A. When an existing facility is replaced by a piece of equipment of equal or smaller size, as defined in §60.671, having the same function as the existing facility, and there is no increase in the amount of emissions, the new facility is exempt from the provisions of §§60.672, 60.674, and 60.675 except as provided below. 1. This exemption does not apply if the permittee is replacing all existing facilities in a production line with new facilities. 2. To comply with this requirement, the information in §60.676(a) must be submitted. B. The cost of replacement of ore-contact surfaces on processing equipment shall not be considered in calculating either the “fixed capital cost of the new components” or the “fixed capital cost that would be required to construct a comparable new facility” under §60.15. Ore-contact surfaces are crushing surfaces; screen meshes, bars, and plates; conveyor belts; and elevator buckets.	18.2.4 18.5.3 60.8 60.11 60.14 60.15 60.670(d) 60.673 60.675 60.676

<table>
<tr><th>No.</th><th>Federally Enforceable Conditions for Clay Processing</th><th>Regulations</th></tr>
<tr><td></td><td>C. Under §60.15, the “fixed capital cost of the new components” includes the fixed capital cost of all depreciable components (except components specified in §60.673(a)) which are or will be replaced pursuant to all continuous programs of component replacement commenced within any 2-year period following August 31, 1983.
The permittee shall notify the Department prior to any reconstruction or modification, identifying any applicable requirements which are triggered by the change to allow the Department to determine if reopening or revision of the permit is required.</td><td></td></tr>
<tr><td>4.</td><td><u>40 CFR 60, Subpart OOO Wet Material Processing Operations</u>
Pursuant to §60.670(a)(2), wet material processing operations, as defined in §60.671, are not subject to Subpart OOO. The following emissions sources have been identified as processing wet material, and are not subject to Subpart OOO.
· Conveyor 17
· Conveyor 18
· Conveyor 19
· Conveyor 20
· Conveyor 21
· Conveyor 22
· Flush Out Conveyor
· Regrind Conveyor.
The permittee shall submit a report within 30 days for any wet material processing operation that processes saturated and subsequently processes unsaturated materials. At the time of such change, the affected source becomes subject to the applicable opacity limit in §60.672(b) and the emission test requirements of §60.11. To the extent practicable, the Department shall be notified prior to any such changes (i.e. a temporary, planned change). If the change is permanent, a permit application shall be submitted prior to implementation to determine if reopening or revision of the permit is required.</td><td>18.2.4
18.5.3
60.670(a)
60.671
60.676(g)</td></tr>
<tr><td>5.</td><td><u>40 CFR 60, Subpart OOO Production Line Applicability</u>
The following emissions sources have been determined not to be subject to Subpart OOO, as they are not a part of the nonmetallic mineral processing production line, as defined under §60.671.
· Conveyor 23
· Conveyor 24
· Conveyor 25.
Prior to any reconfiguration of the production line that could affect Subpart OOO applicability for any emissions source, the permittee shall notify the Department and submit a permit application to determine if reopening or revision of the permit is required.</td><td>18.2.4
18.5.3
60.670(a)
60.671</td></tr>
<tr><td>6.</td><td><u>Opacity Limits</u>
The emissions units permitted herein are subject to the following emissions limits.
<table>
<tr><th>Emissions Source</th><th>Limit</th><th>Authority</th></tr>
<tr><td>Primary Clay Crusher</td><td>15%</td><td>§60.672(b)</td></tr>
<tr><td>Clay Grinding and Storage Building</td><td>7%</td><td>§60.672(e)(1)</td></tr>
<tr><td>Baghouse DC03</td><td>20%, except as allowed by Paragraph 6.1.1(b)</td><td>6.1.1 of the Rules and Regulations</td></tr>
</table>
For the primary clay crusher and each emissions source housed by the clay grinding and storage building, the permittee shall demonstrate compliance with the opacity limitation under Section 6.1.1 of the Rules and Regulations by complying with the above opacity limits.</td><td>6.1
13.2.4
18.2.4
18.5.3
60.672(b)
60.672(e)(1)</td></tr>
</table>

<table>
<tr><th>No.</th><th>Federally Enforceable Conditions for Clay Processing</th><th>Regulations</th></tr>
<tr><td>7.</td><td><u>Opacity Monitoring</u>
The permittee must conduct visible emissions observations using EPA Method 22 (40 CFR part 60, appendix A) on the following emission sources, at the indicated frequencies and durations, while the source is in operation.
<table>
<tr><th>Emissions Source</th><th>Frequency</th><th>Duration</th></tr>
<tr><td>Clay Crusher Shed</td><td>Monthly</td><td>3 minutes at each door/side of building (total of 12 minutes)</td></tr>
<tr><td>Clay Grinding Building & Ground Clay Storage Building</td><td>Monthly</td><td>3 minutes at each door/side of building (total of 12 minutes)</td></tr>
</table>
The observations at each door/side must be conducted in succession. The observation is successful if no visible emissions are observed. If visible emissions are observed, the permittee shall initiate corrective actions within 1 hour. A follow-up observation shall be conducted within 24 hours of completion of corrective actions at the same location where visible emissions were previously observed. If visible emissions are still present, a certified observer shall complete a Method 9 observation within 3 business days to determine compliance with the opacity limits contained in Condition No. 6. The Method 9 observation shall be conducted for each opening where opacity was observed. The permittee shall make record of the following:
A. Source observed, including what door/side of the building;
B. Time and date of each Method 22 observation;
C. Result of each Method 22 observation;
D. Time and date of when any corrective actions were initiated and completed;
E. Description of any corrective actions;
F. Time and date of any Method 9 observations; and
G. Results of any Method 9 observations.</td><td>18.5.3
18.7.1
60.672(b)
60.672(e)(1)</td></tr>
<tr><td>8.</td><td><u>PM Emissions Limits</u>
The permittee shall not cause or allow the emissions from any emissions unit listed above to exceed the particulate matter emissions limits of Table 6-2 of the Rules and Regulations. Interpolation for process weight rates not printed in the table shall be accomplished with the use of the following equations:
A. For process weight rates of less than 30 tons/hour:
$E = 3.59\,p^{0.62}$
B. For process weight rates equal to or greater than 30 tons/hour:
$E = 17.31\,p^{0.16}$
Where:
E = emission rate in pounds/hour for all similar process units, and
p = process weight rate in tons/hour.
PM shall be measured by EPA Method 5 of 40 CFR 60, Appendix A, if required.</td><td>6.4
18.5.3</td></tr>
<tr><td>9.</td><td><u>Maintenance of Controls</u>
A. The permittee shall equip each fabric filter particulate matter control device with a pressure differential measuring device to measure the pressure drop across the filter media in the control device. The device shall be installed in a location which is easily accessible for inspection by Department personnel.
B. All air pollution control devices and capture systems for which this permit is issued shall be maintained and operated at all times in accordance with the manufacturer’s specifications or alternative procedures approved by the Department so as to minimize the emissions of air contaminants. Procedures for ensuring that the above equipment is properly operated and maintained so as to minimize the emissions of air contaminants shall be maintained near the source and provided to the Department upon request.
C. The permittee shall conduct routine inspections on each fabric filter. Record of all inspection results and repair works performed on each filter shall be maintained near the source and provided to the Department upon request. These records shall be retained in a permanent form suitable for inspection in a format approved by the</td><td>18.2.4
18.5.3(a)(2)</td></tr>
</table>

No.	Federally Enforceable Conditions for Clay Processing	Regulations
	Department for at least 5 years following the date of each occurrence. At a minimum, the most recent 2 years of data shall be kept on site. The remaining 3 years of data may be retained off site.	
10.	**Recordkeeping Requirements** The permittee shall maintain the following records, at a minimum, to demonstrate compliance with the applicable requirements and to serve as the basis for annual production data and emissions reporting: A. For annual production data and emissions reporting: 1. Quantity of clay crushed and conveyed (tons); 2. Type and quantity of material processed through each feed hopper (tons); 3. Total hours of operation of each baghouse/dust collector/fabric filter servicing each emissions unit; 4. Total hours of operation of the crusher; 5. Total hours of operation of each feed hopper; and 6. Total hours of operation of each conveyor. B. Records of each visible emissions observation, including dates, results, and any corrective actions taken. C. Records of filter replacements and filter rating. D. Records of the fixed capital cost of replacement components for any modifications or maintenance projects for the clay crusher. E. Notifications prior to any reconstruction or modifications. F. Notifications prior to any reconfiguration of the production line. G. For 40 CFR 60, Subpart OOO: 1. If the permittee is seeking to comply with §60.670(d), submit the following information about the existing facility being replaced and the replacement piece of equipment: a. For a crusher, grinding mill, bucket elevator, bagging operation, or enclosed truck or railcar loading station: i. The rated capacity in megagrams or tons per hour of the existing facility being replaced; and ii. The rated capacity in tons per hour of the replacement equipment. b. For a screening operation: i. The total surface area of the top screen of the existing screening operation being replaced; and ii. The total surface area of the top screen of the replacement screening operation. c. For a conveyor belt: i. The width of the existing belt being replaced; and ii. The width of the replacement conveyor belt. d. For a storage bin: i. The rated capacity in megagrams or tons of the existing storage bin being replaced; and ii. The rated capacity in megagrams or tons of replacement storage bins. 2. Written reports of any and all performance tests results conducted to demonstrate compliance with the standards under §60.672, including reports of opacity observations made using Method 9 to demonstrate compliance with §60.672(b), (e), and (f), must be submitted to the Department and maintained as a record. 3. For any wet material processing operation that processes saturated and subsequently processes unsaturated materials, a report of this change within 30 days following such change.	18.5.3(b) 18.7.1 60.676

Federally Enforceable Conditions for Tunnel Kilns and Brick Dryers

Emissions Unit No.	Emissions Unit Description	Control Device
003	Natural Gas Fired Tunnel Kiln Nos. 1 and 2	44,494 SCFM Dry Injection Fabric Filter (DIFF)
	Brick Dryer Nos. 1 & 2 and Brick Dryer Nos. 3 & 4 serving Kiln Nos. 1 and 2, respectively	N/A

No.	Federally Enforceable Conditions for Tunnel Kilns and Dryers	Regulations
1.	**Applicability** The emissions unit permitted herein consist of the tunnel kiln, dryers, and dry injection fabric filter (DIFF) serving the kilns. The emissions unit is subject to Part 6.1, "Visible Emissions," Part 6.4, "Process Industries – General," and an annual SO_2 emissions limit. The kilns are also subject to Part 7.1, "Fuel Combustion," and 40 CFR 64, "Compliance Assurance Monitoring."	6.1 6.4 7.1 18.2.4 40 CFR 64
2.	**SO_2 Emissions Limit** The tunnel kilns and brick dryers permitted herein shall have a combined SO_2 emissions rate not to exceed 56.85 lb/hr (PSD avoidance), based on a 12-month rolling total. Additionally, the SO_2 emissions shall be limited to less than 250 tons/year based upon the 12-month rolling total. If required by the Department, the SO_2 emissions rate shall be measured by EPA Reference Method 6C of appendix A of 40 CFR 60. The permittee shall demonstrate compliance with the sulfur oxides limitation of Part 7.1 of the Rules and Regulations by complying with this limitation.	2.4 7.1 18.2.4 18.2.5
3.	**PM Emissions Limit** The permittee shall not cause or allow the emissions from any emissions unit listed above to exceed the particulate matter emissions limits of Table 6-2 of the Rules and Regulations. Interpolation for process weight rates not printed in the table shall be accomplished with the use of the following equations: A. For process weight rates of less than 30 tons/hour: $E = 3.59\ p^{0.62}$ B. For process weight rates equal to or greater than 30 tons/hour: $E = 17.31\ p^{0.16}$ Where: E = emission rate in pounds/hour for all similar process units, and p = process weight rate in tons/hour. PM shall be measured by EPA Method 5 of 40 CFR 60, Appendix A, if required.	6.4 18.5.3
4.	**Opacity Limit** A. The sources permitted herein shall have an exhaust opacity not to exceed 20%, as determined by a 6-minute average, or as otherwise provided in Section 6.1.1 of the Rules and Regulations. If required by the Department, the opacity shall be determined by EPA Reference Method 9 of appendix A of 40 CFR 60. B. The permittee may discharge into the atmosphere from a source of emission, particulate of an opacity not greater than that designated as forty percent (40%) opacity during one six (6) minute period in any sixty (60) minute period.	6.1.1 18.5.3
5.	**Opacity Monitoring** The permittee must conduct daily visible emissions observations using EPA Method 22 (40 CFR part 60, appendix A) on the kilns. The observation must be conducted while the kiln(s) are in operation under normal conditions and must be at least 15 minutes in duration. The observation is successful if no visible emissions are observed. If visible emissions are observed, the permittee shall initiate corrective actions within 1 hour. A follow-up observation shall be conducted within 24 hours of completion of corrective actions. If visible emissions are still present, a certified observer shall complete a Method 9 observation within 3 business days to determine compliance with the opacity limits contained in Condition No. 4. The permittee shall make record of the following:	18.5.3 18.7.1 64.6(c)

No.	Federally Enforceable Conditions for Tunnel Kilns and Dryers	Regulations
	A. Time and date of each Method 22 observation; B. Result of each Method 22 observation; C. Time and date of when any corrective actions were initiated and completed; D. Description of any corrective actions; E. Time and date of any Method 9 observations; and F. Results of any Method 9 observations.	
6.	**Maintenance Requirements** The permittee shall inspect all equipment critical to the performance of the baghouse emissions control system on a regular basis in accordance with the baghouse manufacturer's operation and maintenance procedures. This inspection must include observations of the physical appearance of the equipment (e.g, presence of holes in ductwork or hoods, flow constructions caused by dents or excess accumulations of dust in ductwork, etc.). Defects or deficiencies shall be repaired as soon as practicable. A record of inspections and any resulting repairs shall be maintained by the permittee.	4-07-0486-03 18.2.4 18.5.3
7.	**Performance Testing** Within 180 days from the date of issuance of this permit, the permittee shall conduct performance testing on the DIFF and the dryer stacks to determine compliance with the SO_2 emissions limit and reassess and, if necessary, reestablish the minimum reagent feed rate to the DIFF. Following the completion of this test, performance testing shall be repeated, at minimum, every 5 years. Testing shall also be required if the permittee wishes to change the minimum reagent feed rate or prior to any operational change that could adversely affect compliance with the SO_2 emissions limit. Testing shall be conducted according to the following requirements: A. All monitoring equipment shall be calibrated, according to the manufacturer's instructions, before conducting the performance test. B. Testing shall be conducted under representative operating conditions that could potentially produce the maximum potential SO_2 emissions (i.e. using raw materials with the highest sulfur content). 1. Alternatively, the permittee may conduct separate performance tests for each product type produced at the facility. For this method, compliance with the SO_2 emissions limit and a minimum reagent feed rate must be established for each product type. 2. Representative operating conditions exclude periods of startup, shutdown, and malfunction. 3. Process information that is necessary to document operating conditions during the test must be documented and an explanation that supports that the conditions are representative must be included in such record. 4. The permittee shall make such records as may be necessary to determine the conditions of the performance test to the Department. The determination of representative operating conditions is made by the Department. C. A minimum of three separate test runs is required for each performance test. Each test run must last at least 1 hour. D. The presence of free-flowing reagent to the DIFF shall be verified before conducting each test run, in accordance with the procedures of the CAM plan. E. At the same time the performance test is being conducted, a Method 9 visible emissions observation shall be conducted on the DIFF outlet. F. The following test methods shall be used: 1. Method 1 or 1A of 40 CFR 60 for selecting sampling port locations and number of traverse points. i. Sampling sites must be located at the outlet of the DIFF and prior to any releases to the atmosphere. 2. Method 2, 2A, 2C, 2D, or 2F of 40 CFR 60 for determining stack gas velocity and volumetric flow rate. 3. Method 3, 3A, or 3B of 40 CFR 60 for determining stack gas molecular weight.	1.10 18.2.5 18.5.3

No.	Federally Enforceable Conditions for Tunnel Kilns and Dryers	Regulations
	4. Method 4 of 40 CFR 60 for determining stack gas moisture content. 5. Method 6C of 40 CFR 60 for determining SO_2 concentration. 6. Method 9 of 40 CFR 60 for determining stack opacity. G. The operating limit for reagent feed rate shall be established as follows: 1. Feed rate and electric motor frequency of the screw injection system shall be monitored and recorded according to the provisions of the CAM plan for each test run. 2. The average reagent feed rate of the test runs that demonstrates compliance with the SO_2 emissions limit shall be the minimum reagent feed rate. 3. Reagent feed rate shall be correlated to the electric motor frequency recorded during the performance test and established as a monitoring value.	
8.	**Compliance Assurance Monitoring** The permittee shall conduct Compliance Assurance Monitoring (CAM) for the annual SO_2 limit in accordance with the CAM Plan submitted to the Department and incorporated into this Permit, as follows: A. The feed rate setting will be maintained at or above the same level established during the most recent performance test, conducted in accordance with Condition No. 7, above. B. Verification that reagent is free flowing shall be conducted daily by visual inspecting for free flowing reagent through the fresh reagent feed screw ports at the glass inspection ports. Operators shall make record of free flowing fresh reagent visual inspections and their results. C. Reagent feed rate shall be monitored at the injection point using the fresh reagent and recirculation system feed settings on the electric motor screw injection system. 1. Electric motor speeds shall be maintained using a Variable Frequency Drive (VFD). The VFD maintains the electric motor speed by maintaining a steady frequency of the electric power going to the motors measured in hertz. 2. The VFD will maintain a constant frequency. Operators shall verify and log frequency settings once per shift. 3. Feed rate will be established in pounds per hour. Monitored reagent feed settings will be set to a frequency measured in hertz and correlated to the feed rate in pounds per hour established during performance testing. Baseline reagent feed rate and associated VFD frequency will be recorded concurrently with an emissions performance test to demonstrate a direct emission rate correlation for demonstration of compliance. D. The permittee shall perform daily Method 22 visual observations of the direct injection fabric filter, in accordance with Condition No. 5. E. Records and logs of reagent feed rate settings via VFD frequency, free flowing fresh reagent visual inspections, and Method 22 observations shall be maintained. F. Instrumentation will be calibrated, maintained, and operated using procedures that take into account the manufacturer's specifications. G. Upon detection of an excursion or exceedance, the permittee shall restore operation of the pollutant-specific emissions 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. 1. 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 excursion or 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	18.2.4 64.3(a)(2) 64.3(b)(4)(ii) 64.6(c) 64.7 64.8 64.9

No.	Federally Enforceable Conditions for Tunnel Kilns and Dryers	Regulations
	actions to return operation to within the indicator range, designated condition, or below the applicable emission limitation or standard, as applicable. 2. 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. Based on the results of this determination, the Department may require the permittee to develop and implement a quality improvement plan (QIP), according to the requirements of §64.8. H. The permittee shall conduct monitoring at all times that the emission unit is operating and shall maintain the monitoring equipment at all times, including but not limited to maintaining necessary parts for routine inspections. I. Except for, as applicable, monitoring malfunctions, associated repairs, and required quality assurance or control activities (including, as applicable, calibration checks and required zero and span adjustments), the permittee shall conduct all monitoring in continuous operation (or shall collect data at all required intervals) at all times that the pollutant-specific emissions unit is operating. 1. Data recorded during monitoring malfunctions, associated repairs, and required quality assurance or control activities shall not be used for purposes of 40 CFR 64, including data averages and calculations, or fulfilling a minimum data availability requirement, if applicable. 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. J. If the permittee identifies a failure to achieve compliance with an emission limitation or standard for which the approved monitoring did not provide an indication of an excursion or 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 Department and, if necessary, submit a proposed modification to the 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. K. Periodic monitoring reports shall include, at a minimum, the information required by §70.6(a)(3)(iii) and §64.9(a)(2), and the following information, as applicable: 1. Summary information on the number, duration and cause (including unknown cause, if applicable) of excursions or exceedances, as applicable, and the corrective actions taken; 2. 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 3. If a QIP is implemented during the reporting period, a description of the actions taken to implement a QIP during the reporting period as specified in §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. L. The permittee shall maintain the following records, as required by §64.9: 1. Records as required by §70.6(a)(3)(iii);	

No.	Federally Enforceable Conditions for Tunnel Kilns and Dryers	Regulations
	2. Records of monitoring data; 3. Records of monitor performance data; 4. Records of corrective actions taken; 5. Records of any written quality improvement plan required pursuant to §64.8; 6. Records of any activities undertaken to implement a quality improvement plan; and 7. Records of other supporting information required to be maintained under 40 CFR 64 (such as data used to document the adequacy of monitoring, or records of monitoring maintenance or corrective actions).	
9.	**Recordkeeping Requirements** The permittee shall maintain the following records, at a minimum, to demonstrate compliance with the applicable requirements and serve as a basis for emissions calculations: A. For annual production data and emissions reporting: 1. The type and quantity of fuel combusted in each kiln; 2. The quantity of bricks produced by each kiln; 3. The quantity of lime reagent injected; 4. The hours of operation of each kiln and each brick dryer; and 5. The hours of operation of the DIFF. B. For demonstrating compliance with the applicable requirements: 1. Records of each visible emissions observation, including dates, results, and any corrective actions taken; 2. Records of filter replacements and filter ratings; 3. Performance test reports; 4. Records as required by §64.9 and §70.6(a)(3)(iii); 5. Records of feed rates when the tunnel kiln(s) are operating; 6. Daily records of visual lime reagent flow; 7. DIFF maintenance records; and 8. Variable frequency drive (hertz) logged once per shift.	1.9 18.5.3 18.7.1 64.9 70.6(a)(3)

Federally Enforceable Conditions for Other Particulate Matter Sources

Emissions Unit No.	Emissions Unit Description	Control Device
004	Fresh Reagent Silo	Cartridge Filter
	Spent Reagent Silo	Cartridge Filter
	(2) Sand Storage Silos	Cartridge Filters
005	Kiln Car Cleaning Station	DC05
006	Sand and Slurry Coating, Mixing, Forming, Cutting, and Stacking Operations	DC04 (only slurry mixing and sand coating), DC06 (scrap belt transfer to pug mill)

No.	Federally Enforceable Conditions for Other Particulate Matter Sources	Regulations
1.	**Applicability** The emissions units permitted herein consist of the reagent and sand storage silos, kiln car cleaning station, sand and slurry coating mixing, forming, cutting and stacking operations, any associated material handling, transfer, and storage points, and each and any fabric filters serving them. These emissions units are subject to Parts 6.1, "Visible Emissions," and Part 6.4, "Process Industries – General," of the Rules and Regulations.	6.1 6.4
2.	**PM Emissions Limit** The permittee shall not cause or allow the emissions from any emissions unit listed above to exceed the particulate matter emissions limits of Table 6-2 of the Rules and Regulations. Interpolation for process weight rates not printed in the table shall be accomplished with the use of the following equations: A. For process weight rates of less than 30 tons/hour: $E = 3.59\,p^{0.62}$ B. For process weight rates equal to or greater than 30 tons/hour: $E = 17.31\,p^{0.16}$ Where: E = emission rate in pounds/hour for all similar process units, and p = process weight rate in tons/hour. PM shall be measured by EPA Method 5 of 40 CFR 60, Appendix A, if required.	6.4 18.5.3
3.	**Opacity Limit** A. The sources permitted herein shall have an exhaust opacity not to exceed 20%, as determined by a 6-minute average, or as otherwise provided in Section 6.1.1 of the Rules and Regulations. If required by the Department, the opacity shall be determined by EPA Reference Method 9 of appendix A of 40 CFR 60. B. The permittee may discharge into the atmosphere from a source of emission, particulate of an opacity not greater than that designated as forty percent (40%) opacity during one six (6) minute period in any sixty (60) minute period.	6.1.1 18.5.3
4.	**Maintenance of Controls** A. The permittee shall equip each fabric filter particulate matter control device with a pressure differential measuring device to measure the pressure drop across the filter media in the control device. The device shall be installed in a location which is easily accessible for inspection by Department personnel. B. All air pollution control devices and capture systems for which this permit is issued shall be maintained and operated at all times in accordance with the manufacturer's specifications or alternative procedures approved by the Department so as to minimize the emissions of air contaminants. Procedures for ensuring that the above equipment is properly operated and maintained so as to minimize the emissions of air contaminants shall be maintained near the source and provided to the Department upon request. C. The permittee shall conduct routine inspections on all required control equipment. Record of all inspection results and repair works performed on the pollution control device shall be maintained near the source and provided to the Department upon request. These records shall be retained in a permanent form suitable for inspection in a format approved by the Department for at least 5 years following the date of each	18.2.4 18.5.3(a)(2)

No.	Federally Enforceable Conditions for Other Particulate Matter Sources	Regulations
	occurrence. At a minimum, the most recent 2 years of data shall be kept on site. The remaining 3 years of data may be retained off site.	
5.	**Recordkeeping Requirements** The permittee shall maintain the following records, at a minimum, to enable annual production data and emissions reporting, and to demonstrate with the applicable requirements: A. For annual production data and emissions reporting: 1. The hours of operation of each baghouse/dust collector/fabric filter serving each emissions unit. 2. The hours of operation of each emissions unit, including all associated material handling and transfer points. 3. For Emissions Unit No. 004: a. Quantity of fresh lime stored; b. Quantity of spent lime stored; and c. Quantity of sand stored. 4. For Emissions Unit No. 005: a. Quantity of cars cleaned. 5. For Emissions Unit No. 006: a. Quantity of sand used; and b. Quantity of slurry used. B. For demonstrating compliance with the applicable requirements: 1. Records of filter replacements and filter rating.	1.9 18.5.3 18.7.1 60.15 60.676

Appendix A: Cross-References Table: JCBH Air Pollution Control Rules and Regulations to State Implementation Plan

The citations to Alabama regulations provided below refer to the version of the regulation that has been approved by the U.S. EPA as part of Alabama's Clean Air Act state implementation plan (SIP), as identified in 40 CFR 52, Subpart B. In the event that there is a discrepancy between the information provided in the table below and the federal regulatory table identifying the Alabama SIP at 40 CFR 52, Subpart B, the federal regulatory table governs.

JCDH Citation	State Citation	Title/Subject
	Chapter No. 335-1-1	**Organization**
No equivalent provision	Section 335-1-1-.03[1]	Organization and Duties of the Commission
No equivalent provision	Section 335-1-1-.04	Organization of the Department
Chapter 1	**Chapter No. 335-3-1**	**General Provisions**
Part 1.1	Section 335-3-1-.01	Purpose
Part 1.3	Section 335-3-1-.02	Definitions
Part 1.7	Section 335-3-1-.03	Ambient Air Quality Standards
Part 1.9	Section 335-3-1-.04	Monitoring, Records, and Reporting
Part 1.10	Section 335-3-1-.05	Sampling and Test Methods
Part 1.11	Section 335-3-1-.06	Compliance Schedule
Part 1.12	Section 335-3-1-.07	Maintenance and Malfunctioning of Equipment; Reporting
Part 1.13	Section 335-3-1-.08	Prohibition of Air Pollution
Sections 3.2.1 – 3.2.4 & Part 3.4	Section 335-3-1-.09	Variances
Part 1.15	Section 335-3-1-.10	Circumvention
Part 1.16	Section 335-3-1-.11	Severability
Part 1.17	Section 335-3-1-.12	Bubble Provision
Part 1.18	Section 335-3-1-.13	Credible Evidence
Part 1.20	Section 335-3-1-.15	Emissions Inventory Reporting Requirements
Chapter 2	**Chapter No. 335-3-14**	**Air Permits**
Part 2.1	Section 335-3-14-.01	General Provisions
Part 2.2, except 2.2.4(h)	Section 335-3-14-.02[2]	Permit Procedures
Part 2.3	Section 335-3-14-.03[3]	Standards for Granting Permits
Part 2.4	Section 335-3-14-.04[4],[5],[6]	Air Permits Authorizing Construction in Clean Air Areas [Prevention of Significant Deterioration (PSD)]
Part 2.5	Section 335-3-14-.05[7]	Air Permits Authorizing Construction in or Near Nonattainment Areas
Chapter 4	**Chapter No. 335-3-2**	**Air Pollution Emergency**
Part 4.1	Section 335-3-2-.01	Air Pollution Emergency
Part 4.3	Section 335-3-2-.02	Episode Criteria
Part 4.4	Section 335-3-2-.03	Special Episode Criteria
Part 4.5	Section 335-3-2-.04	Emission Reduction Plans
Part 4.6	Section 335-3-2-.05	Two Contaminant Episode

[1] Exceptions to approval: ADEM amendments effective on December 7, 2018 have not been approved in the SIP by EPA.
[2] Exceptions to approval: ADEM amendments effective on September 7, 2000 and July 11, 2006 have not been approved in the SIP by EPA.
[3] Exceptions to approval of the state effective rule on February 12, 2024: Except for paragraph 335–3–14–.03(1)(h) which was approved on 9/26/2012 with a state effective date of 5/23/ 2011.
[4] Exceptions to approval as of the state effective rule on February 12, 2024: Except for changes to 335-3-14-.04(2)(w)1., state effective July 11, 2006, which lists a 100 ton per year significant net emissions increase for regulated NSR pollutants not otherwise specified at 335-3-14-.04(2)(w).
[5] Exceptions to approval as of the state effective rule on February 12, 2024: Except for the significant impact levels at 335-3-14-.04(10)(b).
[6] Exceptions to approval as of the state effective rule on February 12, 2024: Except for the second and third sentences of paragraph 335-3-14-.04(2)(bbb)2., as well as the second and fourth sentences of paragraph 335-3-14-.04(2)(bbb)3., which include changes from the vacated federal ERP rule.
[7] Exceptions to approval as of the state effective rule on February 12, 2024: Except for the portion of 335–3–14–.05(1)(k)20 stating ''excluding ethanol production facilities that produce ethanol by natural fermentation''; and 335–3–14–.05(2)(c)3 (addressing fugitive emission increases and decreases). Except for 335–3–14–.05(1)(h) (the actual-to-potential test for projects that only involve existing emissions units); the last sentence at 335–3–14–.05(3)(g), stating ''Interpollutant offsets shall be determined based upon the following ratios''; and the NNSR interpollutant ratios at 335–3–14– .05(3)(g)1–4.

JCDH Citation	State Citation	Title/Subject
Part 4.7	Section 335-3-2-.06	General Episodes
Part 4.8	Section 335-3-2-.07	Local Episodes
Part 4.9	Section 335-3-2-.08	Other Sources
Section 4.2.3	Section 335-3-2-.09	Other Authority Not Affected
Chapter 5	**Chapter No. 335-3-3**	**Control of Open Burning and Incineration**
Sections 5.1.1 – 5.1.5[8]	Section 335-3-3-.01	Open Burning
Part 5.2	Section 335-3-3-.02[9]	Incinerators
Part 5.3[10], except 5.3.4	Section 335-3-3-.03	Incineration of Wood, Peanut, and Cotton Ginning Waste
Chapter 6	**Chapter No. 335-3-4**	**Control of Particulate Emissions**
Part 6.1[11]	Section 335-3-4-.01	Visible Emissions
Part 6.2	Section 335-3-4-.02[12]	Fugitive Dust and Fugitive Emissions
Part 6.3	Section 335-3-4-.03	Fuel Burning Equipment
Part 6.4	Section 335-3-4-.04	Process Industries—General
Part 6.5[13]	Section 335-3-4-.05[14]	Small Foundry Cupola
Part 6.6[15]	Section 335-3-4-.06	Cotton Gins
Part 6.7	Section 335-3-4-.07	Kraft Pulp Mills
Part 6.8	Section 335-3-4-.08	Wood Waste Boilers
Part 6.9	Section 335-3-4-.09	Coke Ovens
No equivalent provision	Section 335-3-4-.10	Primary Aluminum Plants
Part 6.10	Section 335-3-4-.11	Cement Plants
Part 6.12	Section 335-3-4-.12	Xylene Oxidation Process
No equivalent provision	Section 335-3-4-.13[16]	Sintering Plants
No equivalent provision	Section 335-3-4-.14	Grain Elevators
No equivalent provision	Section 335-3-4-.15	Secondary Lead Smelters
No equivalent provision	Section 335-3-4-.17	Steel Mills Located in Etowah County
Chapter 7	**Chapter No. 335-3-5**	**Control of Sulfur Compound Emissions**
Part 7.1	Section 335-3-5-.01	Fuel Combustions
Part 7.2 is not equivalent	Section 335-3-5-.02	Sulfuric Acid Plants
No equivalent provision	Section 335-3-5-.03	Petroleum Production
No equivalent provision	Section 335-3-5-.04	Kraft Pulp Mills
No equivalent provision	Section 335-3-5-.05	Process Industries—General
Part 7.6	Sections 335-3-5-.06 through 335-3-5-.36	TR SO_2 Trading Program
Chapter 8	**Chapter No. 335-3-6**	**Control of Organic Emissions**
Part 8.1[17]	Section 335-3-6-.24	Applicability
Part 8.2	Section 335-3-6-.25	VOC Water Separation
Part 8.3	Section 335-3-6-.26[18],	Loading and Storage of VOC
Part 8.4	Section 335-3-6-.27	Fixed-Roof Petroleum Liquid Storage Vessels
Part 8.5	Section 335-3-6-.28	Bulk Gasoline Plants

[8] See also Guidelines & Standard Operating Procedures for Issuance of Open Burning Authorizations at the end of Chapter 5. ADEM 335-3-3-.01(2)(b)(6) also prohibits open burning during declared air stagnation advisories and drought emergencies.
[9] Amendments to 335-3-3-.02 effective September 19, 1991 have not been approved into the SIP by EPA.
[10] JCDH has no equivalent for ADEM 335-3-3-.03(5), which states "Each incinerator subject to this Rule shall be properly designed, equipped, and maintained for its maximum rated burning capacity and shall be equipped with an underfire forced air system, an over-fire air recirculation secondary construction system, and variable control damper, all of which shall be electronically controlled to insure the optimum temperature range for the complete combustion of the amount and type of material waste being charged into the incinerator. Each such incinerator shall be equipped with a temperature recorder which shall be operated continuously with the incinerator, and the temperature records shall be made available for inspection at the request of the Director."
[11] ADEM has no equivalent to Section 6.1.8.
[12] ADEM 335-3-4-.02(4) was removed effective July 15, 1999, however, the provision is still included in the EPA-approved SIP.
[13] All allowable emissions rates in Table 6-3 should be construed to have 2 significant figures, consistent with ADEM 335-3-4-.05, Table 4-3.
[14] Exceptions to approval: Changes to Section 335-3-4-.05 with state effective date November 21, 1996.
[15] All allowable emissions rates in Table 6-4 should be construed to have 1 significant figure, consistent with ADEM 335-3-4-.06, Table 4-4.
[16] ADEM has removed and reserved this section, however it remains listed in the EPA approved SIP. See 40 CFR 52.50(c).
[17] The definition of "low-use coating" at ADEM 335-3-6-.24(2)(d) is located at JCDH Part 1.3.
[18] Amendments to 335-3-6-.26 effective September 21, 1989 and July 31, 1991 have not been approved into the SIP by EPA. The EPA-approved SIP requires a disposal system in conjunction with equipment required by ADEM 335-3-6-.26(2)(c)1.(i) (JCDH 8.3.2(c)(1)(i)).

JCDH Citation	State Citation	Title/Subject
Part 8.6	Section 335-3-6-.29	Gasoline Terminals
Part 8.7, except 8.7.4(b) & 8.7.5(e)	Section 335-3-6-.30	Gasoline Dispensing Facilities Stage 1
No equivalent provision	Section 335-3-6-.31[19]	Petroleum Refinery Sources
Part 8.11	Section 335-3-6-.32	Surface Coating
Part 8.12	Section 335-3-6-.33	Solvent Metal Cleaning
Part 8.13	Section 335-3-6-.34	Cutback and Emulsified Asphalt
No equivalent provision	Section 335-3-6-.35[20]	Petition for Alternative Controls
Part 8.15	Section 335-3-6-.36	Compliances Schedules
Part 8.16[21]	Section 335-3-6-.37	Test Methods and Procedures
No equivalent provision	Section 335-3-6-.38	Reserved
Part 8.18	Section 335-3-6-.39	Manufacture of Synthesized Pharmaceutical Products
Part 8.20, except 8.20.8	Section 335-3-6-.41	Leaks from Gasoline Tank Trucks and Vapor Collection Systems
No equivalent provision	Section 335.3.6-.42	Reserved
Part 8.22	Section 335-3-6-.43	Graphic Arts
Part 8.23	Section 335-3-6-.44	Petroleum Liquid Storage in External Floating Roof Tanks
Part 8.24	Section 335-3-6-.45	Large Petroleum Dry Cleaners
No equivalent provision	Section 335-3-6-.46	Reserved
Part 8.26	Section 335-3-6-.47	Leaks from Coke by-Product Recovery Plant Equipment
Part 8.27	Section 335-3-6-.48	Emissions from Coke by-Product Recovery Plant Coke Oven Gas Bleeder
Part 8.28	Section 335-3-6-.49	Manufacture of Laminated Countertops
Part 8.29	Section 335-3-6-.50	Paint Manufacture
Part 8.32[22]	Section 335-3-6-.53	List of EPA Approved and Equivalent Test Methods and Procedures for the Purpose of Determining VOC Emissions
Chapter 9	**Chapter No. 335-3-7**	**Control of Carbon Monoxide Emissions**
Part 9.1	Section 335-3-7-.01	Metals Productions
Part 9.2	Section 335-3-7-.02	Petroleum Processes
Chapter 10	**Chapter No. 335-3-8**	**Control of Nitrogen Oxides Emissions**
Part 10.1	Section 335-3-8-.01	Standards for Portland Cement Kilns
Part 10.2	Section 335-3-8-.02	Nitric Acid Manufacturing
Part 10.3	Section 335-3-8-.03	NO_X Emissions from Electric Utility Generating Units
Part 10.4	Section 335-3-8-.04	Standards for Stationary Reciprocating Internal Combustion Engines
Part 10.5	Section 335-3-8-.05	New Combustion Sources
Part 10.7	Sections 335-3-8-.07 through 335-3-8-.38	TR NO_X Annual Trading Program
Part 10.8	Sections 335-3-8-.39 through 335-3-8-.70	TR NO_X Ozone Season Trading Program
Part 10.9	Sections 335-3-8-.71 & 335-3-8-.72	NO_X Budget Program
Chapter 11	**Chapter No. 335-3-9**	**Control of Emissions from Motor Vehicles**
Part 11.1	Section 335-3-9-.01	Visible Emission Restriction for Motor Vehicles
Part 11.2	Section 335-3-9-.02	Ignition System and Engine Speed
Part 11.3	Section 335-3-9-.03	Crankcase Ventilation Systems
Part 11.4	Section 335-3-9-.04	Exhaust Emission Control Systems
Part 11.5	Section 335-3-9-.05	Evaporative Loss Control Systems
Part 11.6	Section 335-3-9-.06	Other Prohibited Acts
Part 11.7	Section 335-3-9-.07	Effective Date

[19] ADEM has removed and reserved this section, however it remains listed in the EPA approved SIP. See 40 CFR 52.50(c).
[20] Amendments to 335-3-6-.35 effective July 31, 1991 have not been approved into the SIP by EPA.
[21] Federally enforceable testing provisions for perchloroethylene dry cleaning systems are located at ADEM 335-3-6-.37(5) and federally enforceable testing provisions for capture efficiency for VOC capture and control systems are located at ADEM 335-3-6-.37(13). JCDH 8.16.5 is reserved, and JCDH 8.16.13 is very brief.
[22] Test Methods 204, 204A-204F are not included in the EPA-approved SIP.

JCDH Citation	State Citation	Title/Subject
No equivalent provision	**Chapter No. 335-3-12**[23]	Continuous Monitoring Requirements for Existing Sources
No equivalent provision	**Chapter No. 335-3-13**	Control of Fluoride Emissions
Chapter 17	**Chapter No. 335-3-15**	**Synthetic Minor Operating Permits**
Part 17.1	Section 335-3-15-.01	Definitions
Part 17.2, except 17.2.8(h)(7)	Section 335-3-15-.02	General Provisions
Part 17.3	Section 335-3-15-.03	Applicability
Part 17.4[24]	Section 335-3-15-.04[25]	Synthetic Minor Operating Permit Requirements
Part 17.5, except 17.5.2	Section 335-3-15-.05	Public Participation
Chapter 19	**Chapter No. 335-3-17**	**Conformity of Federal Actions to State Implementation Plans**
Part 19.1	Section 335-3-17-.01[26]	Transportation Conformity
Part 19.2	Section 335-3-17-.02[27]	General Conformity

[23] Amendments to 335-3-12-.02 effective September 7, 2000 have not been approved into the SIP by EPA.
[24] The federally enforceable provisions of ADEM 335-3-15-.04(3)(c) are located at JCDH 2.1.7(a). JCDH Part 17.4 does not include the federally enforceable provisions of ADEM 335-3-15-.04(1)(g).
[25] Exceptions to approval: Changes to Section 335-3-15-.04 with state effective dates February 12, 2024 and October 13, 2025.
[26] Amendments to 335-3-17-.01 effective February 12, 2024 have not been approved into the SIP by EPA.
[27] Amendments to 335-3-17-.02 effective February 12, 2024 have not been approved into the SIP by EPA.

Jefferson County Department of Health
Environmental Health Services
Air Pollution Control Program

Statement of Basis for Title V Renewal Permit for U.S. Brick Alabama, LLC. – Bessemer Plant No. 6

Facility Information

Plant Location and Mailing Address	Responsible Official	Plant Contact
8250 Hopewell Road Southeast Bessemer, AL 35020	Jed Lee Chief Operating Officer (706) 421-3904	David Johnson Director of Continuous Improvement (706) 825-0716

Description of Permit Action

This permit action is for the renewal of U.S. Brick's Bessemer Plant No. 6 (USB) Title V Major Source Operating Permit, pursuant to the 40 CFR Part 70 requirement that Title V permits be reviewed, updated, if applicable, and reissued every five years.

The previous renewal permit, No. 4-07-0486-06, was issued on February 5, 2021 and did not authorize any changes to the facility. The current permit, No. 4-07-0486-07, was issued on August 4, 2023 to reflect a change in ownership from Meridian Brick, LLC. (Meridian Brick) to USB.

There are no modifications proposed with this renewal. However, several formatting changes and corrections are being made to improve organization. Monitoring requirements are also being strengthened with this renewal, including a new requirement to periodically conduct performance testing on the kiln's control equipment.

A list summarizing the revisions made to the permit can be found at the end of this report.

Description of Operations

USB produces bricks from shale, clay, and fire clay using a stiff-mud extrusion process and tunnel kilns.

Raw Material Processing and Storage

Some clay is procured on-site via small-scale surface mining excavation. This process is wet and is expected to result in only a small amount of fugitive emissions from material loading and transfer. Shale, clay, and fire clay, are fed to a hopper and conveyed to a primary crusher, to break up lumps and stones. The primary crusher and its associated conveyors are partially enclosed by a shed. Crushed materials are transferred via conveyor to a storage building where they are separated by type.

Front end loaders transfer materials to weigh feeders, which are heated by natural gas-fired burners to prevent sticking. Raw materials are mixed and blended to achieve the desired composition and color. The mixture then undergoes primary and secondary crushing and screening. The blend is mixed with water to achieve a moisture content of approximately 11% and then conveyed to storage in one of five storage bays. Prior to being conveyed to the main

manufacturing process, the blend is transferred via front end loader to hoppers where additional mixing and blending takes place. The majority of the emissions sources associated with raw material processing and storage are located indoors. Fabric filters are in use for some sources to control particulate matter emissions.

The following table summarizes the control devices or capture mechanisms for clay processing, based off that supplied in the application and as verified by the facility. For conveyors marked with an asterisk, this indicates that the associated baghouse controls only one end. Conveyors 1-3, Conveyor 25, and the Flush Out Conveyor are either fully or partially located outside, but are enclosed over the top.

Control Device or Capture Mechanism	Emissions Source
Clay Crusher Shred / Partially Enclosed	Crusher
	Conveyor 1
	Conveyor 2
	Conveyor 3
DC01 (outlet located indoors)	Grinder
	Conveyor 6*
	Conveyor 12*
	Conveyor 13*
	Conveyor 14
DC02 (outlet located indoors)	Screens
	Conveyor 4*
	Conveyor 5
	Conveyor 6*
	Conveyor 7
	Conveyor 8
	Conveyor 9
	Conveyor 10
	Conveyor 11
	Conveyor 12*
	Conveyor 13*
	Conveyor 15
	Conveyor 16*
DC03	Blending Hoppers Nos. 1-4
Clay Grinding and Storage Building / Enclosed	Double Grind Conveyor (Regrind Conveyor)
	Flush Out Conveyor (extends outdoors but partially enclosed)
	Blending Hoppers Nos. 5-7
	Conveyor 17
	Conveyor 18
	Conveyor 19
	Conveyor 20
	Conveyor 21
	Conveyor 22

Control Device or Capture Mechanism	Emissions Source
	Conveyor 23
	Conveyor 24
	Conveyor 25 (extends outdoors but partially enclosed)

Forming and Drying

In this stage, the raw material mixture is processed to produce a homogeneous, plastic clay mass via a stiff-mud extrusion process. A pug mill is used to mix the materials and induce plasticity. The mixture is then extruded as a column. Extruded clay is coated with sand and/or slurry, depending on product specifications. The column is cut into individual bricks and stacked onto kiln cars to be transferred to the drying and firing processes.

Kiln cars are transferred to a holding room, which is heated with a mixture of ambient air and some surplus heat from the cooling section of the kiln. From the holding room, the cars are transferred to one of two double tunnel dryers, which are heated with waste heat from the kiln's cooling section. It is generally expected that brick dryers heated by cooling zone waste heat are not a source of combustion emissions, as kilns are designed to prevent combustion gases from entering the cooling zone.[1]

The following table summarizes the emission sources and associated control device or capture mechanism associated with forming and drying, based off information provided in the application.

Control Device or Capture Mechanism	Emissions Source
DC04[2]	Slurry Mixing
	Sand Coating
DC05	Kiln Car Cleaning
DC06 (outlet located indoors)	Scrap Belt Transfer to Pug Mill
Silo Bin Vents and Cartridge Filters	Storage Silos

Firing

USB operates two natural gas-fired tunnel kilns for tempering bricks. Kiln cars pass through the kiln, through various temperature zones, typically consisting of a preheat zone, firing zone, and cooling zone. Fired bricks are removed and packed, and then transported to the storage yard prior to shipment.

The kilns are expected to generate emissions of particulate matter (PM), nitrogen oxides (NO_x), sulfur dioxide (SO_2), carbon monoxide (CO), volatile organic compounds (VOC), and hazardous air pollutants (HAPs), including hydrofluoric acid (HF) and hydrochloric acid (HCl). The magnitude of emissions will vary based on fuel and raw material composition and actual combustion conditions. For SO_2 specifically, raw materials and additives for brick manufacturing tend to be high in sulfur content.

[1] AP-42 Chapter 11.3, Brick and Structural Clay Manufacturing, page 11.3-3

[2] The facility has identified that baghouse DC04 only controls emissions from slurry mixing and sand coating. Sand mixing emissions are not ducted to any control device, though are located indoors and so captured by the building.

USB makes use of a dry (lime) injection fabric filter (DIFF) to control acid gas emissions, primarily HF, HCl, and SO_2. The DIFF also serves to control some PM emissions, by reacting out compounds that would otherwise condense when emitted to the atmosphere.

Permitting, Application, and Construction History

The table below summarizes the Title V permitting history of the facility.

Application	Purpose	Department Action
12/15/1995	Initial Title V	4-07-0486-01 issued 3/28/1998
10/1/2002	Title V Renewal	4-07-0486-02 issued 8/31/2005
6/27/2007	Modification – Installation and Operation of DIFF	4-07-0486-03 issued 9/28/2009
7/11/2007	Modification – Installation and Operation of Portable Brick Crusher	Authorization issued 8/2/2007
3/9/2009	Revised Application for DIFF and Title V Renewal	4-07-0486-03 issued 9/28/2009
4/29/2009	Modification – Installation and Operation of Pug Mill and Additional Material Storage	4-07-0486-03 issued 9/28/2009
3/31/2014	Title V Renewal	4-07-0486-04 issued 8/7/2014
5/6/2016	Modification – Installation and Operation of Flush Out Conveyor and Double Grind Process	Authorization issued 3/14/2017
7/13/2017	Administrative - Change of Ownership	4-07-0486-05 issued 9/12/2017
12/6/2017	Modification – Installation and Operation of Conveyor Dust Collector	Authorization issued 12/20/2017
2/7/2019	Title V Renewal	4-07-0486-06 issued 2/5/2021
12/16/2021	Administrative – Change of Ownership	4-07-0486-07 issued 8/4/2023
8/1/2025	Title V Renewal	Current draft permit to be numbered 4-07-0486-08

The current Title V renewal application was submitted on August 1, 2025. Consistent with Section 18.12.2 of the Rules and Regulations, USB's right to operate will extend past the expiration of the current Title V permit on February 4, 2026.

The initial Title V permit was issued to Boral Bricks. The facility has changed ownership twice in its Title V permitting history, once in 2017 from Boral Bricks to Meridian Brick and again in 2021 from Meridian Brick to USB.

The DIFF was intended as a method to reduce HAP emissions below major source thresholds to prevent the applicability of the National Emission Standard for Hazardous Air Pollutants (NESHAP), 40 CFR 63, Subpart JJJJJ, "National Emission Standards for Hazardous Air Pollutants for Brick and Structural Clay Products Manufacturing." Subpart JJJJJ was initially promulgated on May 16, 2003 (68 FR 26690), applying to brick and structural clay products manufacturing facilities located at major sources of HAP. At the time, the facility was a major

source of HAP and the kilns had a capacity of greater than 10 tons per hour, subjecting them to the subpart.[3]

Subpart JJJJJ was subsequently vacated by a U.S. Court of Appeals ruling in early 2007; nonetheless, the DIFF was installed in April 2007 and tested in May 2007. The testing results demonstrated SO_2 emissions higher than previously understood from the kilns, causing concerns that the facility was a major source under the Prevention of Significant Deterioration (PSD) permitting program. To address these concerns, the facility took on an annual limit on SO_2 emissions, to be achieved by upgrades to the DIFF.

Subpart JJJJJ was repromulgated in October 2015, with an effective date of December 28, 2015 (80 FR 65470), applying to brick and structural clay products located at major sources of HAP. However, the DIFF reduces potential HAP emissions for the facility below major source thresholds, and so Subpart JJJJJ does not apply.

Changes to Emissions Unit Organization

To improve organization, the emissions units have been reformatted, as shown below. All operations that are housed inside the clay grinding and storage building will now be under EU 002.

Current EU Number	Current EU Description	Proposed EU Number	Proposed EU Description
001	Primary Clay Crusher (installed in 1989), Belt Conveyor 17 (installed in 2011), Belt Conveyor 18 (installed in 2011), Flush Out Conveyor (installed in 2017), and Regrind Conveyor (installed in 2017) [uncontrolled sources]; and Belt Conveyor 5 (installed in 1989) connected to a 25,000 SCFM Baghouse (DC2) (The crusher and the belt conveyor transfer points are subject to subpart OOO of 40 CFR 60.)	001	Primary Clay Crusher
002	Grinding and Screening with a 29,300 SCFM Baghouse	002	Clay Grinding and Storage Building
003	Natural Gas Fired Tunnel Kiln Nos 1 and 2 connected to a 44,494 SCFM Dry Injection Fabric Filter (DIFF) and Brick Dryer 1 & 2 and Brick Dryer 3 & 4 serving Kiln Nos 1 and 2, respectively	003	Natural Gas Fired Tunnel Kilns Nos. 1 and 2 and Brick Dryers Nos. 1 through 4
004	Fresh Reagent Storage Silo with a 1,500 SCFM Cartridge Filter, Spent Reagent Storage Silo with a 648 SCFM Cartridge Filter, and	004	Storage Silos

[3] A permit limit of 10 tons per hour for the kilns was added to Permit No. 4-07-0486-02 to prevent the applicability of Subpart JJJJJ during this time. The facility decided to install the DIFF to reduce HAP emissions below major source thresholds to prevent Subpart JJJJJ applicability, rather than having to reduce production. With the vacation of Subpart JJJJJ, there was no longer a need to restrict the kilns' throughput, and so the limit was removed. Installation and operation of the DIFF proceeded, as described in this section.

Current EU Number	Current EU Description	Proposed EU Number	Proposed EU Description
	(2) Sand Storage Silos each with a 1,000 SCFM Baghouse		
005	Kiln Car Cleaning Station with a 10,000 SCFM Baghouse	005	Kiln Car Cleaning Station
006	Sand Coating, Slurry Mixing, Sand Mixer, Forming, Cutting, and Stacking Operations with a 2,500 SCFM Baghouse	006	Sand and Slurry Coating, Mixing, Forming, Cutting, and Stacking Operations
007	(4) Blending Feed Hoppers with a 10,000 SCFM Baghouse	002	Clay Grinding and Storage Building

The blending feed hoppers are not being removed from the permit, simply being reorganized to be under the "Clay Grinding and Storage Building" header. As shown below, a detailed list will be maintained in the permit for all sources housed inside the clay grinding and storage building.

Emission unit-specific conditions have been grouped as follows, to further consolidate emissions sources with similar requirements and/or operations.

Federally Enforceable Conditions for Clay Processing			
Emissions Unit No.	**Emissions Unit Description**	**Installation Date**	**Control Device**
001	Primary Clay Crusher	1989	N/A
	Conveyor 1	1960's	N/A
	Conveyor 2	1960's	N/A
	Conveyor 3	1960's	N/A
002	Grinder	2002	DC01
	Screens	1960's	DC02
	(4) Blending Feed Hoppers	2011	DC03
	Flush Out Conveyor	2017	N/A
	Regrind Conveyor	2017	N/A
	Conveyor 1	1960's	N/A
	Conveyor 2	1960's	N/A
	Conveyor 3	1960's	N/A
	Conveyor 4	1960's	DC02
	Conveyor 5	2011	DC02
	Conveyor 6	1960's	DC01, DC02
	Conveyor 7	1960's	DC02
	Conveyor 8	1960's	DC02
	Conveyor 9	1960's	DC02
	Conveyor 10	1960's	DC02
	Conveyor 11	1960's	DC02
	Conveyor 12	1960's	DC01
	Conveyor 13	1960's	DC01

Federally Enforceable Conditions for Clay Processing			
Emissions Unit No.	**Emissions Unit Description**	**Installation Date**	**Control Device**
	Conveyor 14	1960's	DC01
	Conveyor 15	1960's	DC02
	Conveyor 16	1960's	DC02
	Conveyor 17	2011	N/A
	Conveyor 18	2011	N/A
	Conveyor 19	2011	N/A
	Conveyor 20	2011	N/A
	Conveyor 21	2011	N/A
	Conveyor 22	2011	N/A
	Conveyor 23	2011	N/A
	Conveyor 24	2011	N/A
	Conveyor 25	1960's	N/A

Federally Enforceable Conditions for Tunnel Kilns and Brick Dryers		
Emissions Unit No.	**Emissions Unit Description**	**Control Device**
003	Natural Gas Fired Tunnel Kiln Nos. 1 and 2	44,494 SCFM Dry Injection Fabric Filter (DIFF)
	Brick Dryer Nos. 1 & 2 and Brick Dryer Nos. 3 & 4 serving Kiln Nos. 1 and 2, respectively	N/A

Federally Enforceable Conditions for Other Particulate Matter Sources		
Emissions Unit No.	**Emissions Unit Description**	**Control Device**
004	Fresh Reagent Silo	Cartridge Filter
	Spent Reagent Silo	Cartridge Filter
	(2) Sand Storage Silos	Cartridge Filters
005	Kiln Car Cleaning Station	DC05
006	Sand and Slurry Coating, Mixing, Forming, Cutting, and Stacking Operations	DC04 (only slurry mixing and sand coating), DC06 (scrap belt transfer to pug mill)

Compliance and Enforcement

The facility is in compliance with the current permit based on the most recent annual inspection and full compliance evaluation. There are no other consent decrees, court judgements, administrative orders or other enforcement orders which have been issued against the facility at the time of this draft permit which are not properly addressed in the permit. No compliance schedule is required at this time.

In 2023, the facility was determined to not be in compliance based on the annual inspection and full compliance evaluation, as there had been at least three occurrences in which lime feed to the DIFF was interrupted, which had not been reported to the Department. The Department considers such events to be excess emissions; since lime is not being injected to kiln exhaust, it cannot be assured that sulfur oxide emissions are not in excess of the permit limit.

The Department also required that USB conduct a root cause investigation into these lime feed interruptions. USB determined that the most likely cause was lime was becoming packed in the feed pipe, due to the fine particle size of the material and the temperature differential between the feed pipe and the ambient environment. USB installed heat tracing tape to the outside of the pipe, to prevent condensation on the outside of the pipe and material sticking on the inside. USB also installed three pulse nozzles at the bottom of the lime silo to break up material as it exits. The Department determined this response to be sufficient. USB has been timely in its malfunction reporting since, as of the date of this report.

List of all Units and Emissions Generating Activities

The following table contains the emissions units for USB, as included in the draft permit and with changes as described in preceding sections.

Emissions Unit No.	Emissions Unit Description
001	Primary Clay Crusher
002	Clay Grinding and Storage Building
003	Natural Gas Fired Tunnel Kiln Nos. 1 and 2 and Brick Dryer Nos. 1 through 4
004	Storage Silos
005	Kiln Car Cleaning Station
006	Sand and Slurry Coating, Mixing, Forming, Cutting, and Stacking Operations

The following are facility-wide and/or small emissions-generating activities that have not been assigned an emissions unit number:

- Fugitive dust from material handling and vehicle traffic (facility-wide)
- Fuel storage tanks.

Facility-Wide Potential to Emit

The potential to emit (PTE) is calculated using the maximum capacity of the facility under its physical and operational design. The calculation includes federally enforceable limits, restrictions or requirements, including but not necessarily limited to air pollution control equipment, and restrictions on the hours of operation, types of materials combusted or amounts of materials processed. The most recent permit application may include adjustments to the PTE calculation which incorporate better information than was available when previous applications were submitted.

The potential or projected emissions calculated by the Department, incorporating the best available information at this time, is summarized below to put the size of the facility in context and to aid in understanding which regulations apply. Fugitive emissions are not included in the potential emissions total, as USB does not belong to a listed source category under Subparagraph 18.1.1(q)(2) of the Rules and Regulations, but are summarized in a separate table below.

The independent calculations performed by the Department may differ from those submitted by the facility. Differences will not be discussed unless an issue of applicability is presented. The Department's full calculation of potential emissions for the facility using the best available information is attached to this report, including the sources of emissions factors and other assumptions. Potential to emit is meant to be a worst-case emissions calculation. Actual emissions are lower.

Pollutant	Potential Emissions (tpy)
PM	47.08
PM_{10}	47.08
$PM_{2.5}$	47.08
SO_2[4]	249.2
CO	120.8
NO_x	31.89
VOC	7.972
HF	0.3341
HCl	0.1670
Lead	6.846×10^{-4}
Total Non-Pb Metal HAP	0.01098
Total Volatile HAP	0.7939
Total HAP	1.307

The following table summarizes fugitive emissions at the facility.

Pollutant	Material Handling, Storage, and Transfer (tpy)	Stockpiling (tpy)	Vehicle Traffic (tpy)	Total (tpy)
PM	2.3	0.3	46.0	48.6
PM_{10}	1.1	0.1	10.7	11.9
$PM_{2.5}$	0.2	0.02	1.8	2.0

The following table summarizes potential particulate matter emissions from specific manufacturing processes, to provide reference for the general magnitude of their operations.

Emissions Source	PM Emissions (tpy)	PM_{10} Emissions (tpy)	$PM_{2.5}$ Emissions (tpy)
Clay Crusher	18.09	18.09	18.09
DIFF	3.391	3.391	3.391
Dryers	1.382	1.382	1.382
Baghouse DC01	2.200	2.200	2.200
Baghouse DC02	1.877	1.877	1.877
Baghouse DC03	7.509	7.509	7.509
Fresh Reagent Silo Bin Vent	1.126	1.126	1.126
Spent Reagent Silo Bin Vent	0.4866	0.4866	0.4866
(2) Sand Storage Silo Bin Vents	1.502	1.502	1.502

[4]This value is based off the SO_2 limit on the kilns and dryers of 56.85 pounds per hour. For reference, using the maximum of the 2010 stack test values of 38.85 pounds SO_2 per hour combined from the kilns and dryers (4.56 pounds per hour for buff body brick, 38.85 pounds per hour for red body brick) yields a potential to emit of 170.2 tons SO_2 per year.

Emissions Source	PM Emissions (tpy)	PM_{10} Emissions (tpy)	$PM_{2.5}$ Emissions (tpy)
Baghouse DC04	1.877	1.877	1.877
Baghouse DC05	7.509	7.509	7.509
Baghouse DC06	0.1314	0.1314	0.1314
Clay Processing Fugitives	1.465	0.6930	0.1511
Sand and Slurry Mixing and Coating Fugitives	0.2272	0.1074	0.0163
Silo Fugitives	0.5671	0.2682	0.0406
Kiln Car Cleaning Fugitives	0.0010	0.0005	7.027×10^{-5}
Forming and Extruding Fugitives	0.0185	0.0087	0.0013
Blending and Additive Feeder Fugitives	0.1509	0.0714	0.0108
Total Material Handling, Storage and Transfer Fugitives	2.279	1.078	0.1632

The following table presents the average of the actual facility-wide emissions of selected pollutants during calendar years 2020-2024, as entered in the Department's emission reporting database.

Pollutant	Average Emissions 2020-2024 (tpy)
PM	17.87
PM_{10}	7.319
$PM_{2.5}$	4.492
SO_2	110.3
CO	62.28
NO_x	19.12
VOC	3.834
HF	0.1848
HCl	0.1124

NAAQS Attainment Status & Major Source Thresholds

Jefferson County is designated attainment for all NAAQS currently in effect. The provisions of Part 2.4, "Air Permits Authorizing Construction in Clean Areas [Prevention of Significant Deterioration Permitting (PSD)]" of the Rules and Regulations determine the major source threshold for all New Source Review (NSR) regulated pollutants. USB is not a source category listed under Subdivision 2.4.2(a)(1)(i) of the Rules and Regulations, and so the major source threshold for NSR/PSD is 250 tons per year. Under Title V (Paragraph 18.1.1(q)), the major source threshold is 100 tons for regulated NSR pollutants (excluding lead) and the major source thresholds for HAPs are 10 tons per year for a single HAP and 25 tons per year for total HAP. Fugitive emissions are not required to be included in the Title V major source determination for USB as it does not belong to a listed source category under Subparagraph 18.1.1(q)(2) of the Rules and Regulations.

An insignificant activity means an air emissions unit at the facility which has the potential to emit less than 5 tons per year of any criteria pollutants or less than 1,000 pounds per year of any HAP (Paragraph 18.1.1(o) of the Rules and Regulations). However, activities which have applicable requirements cannot be considered insignificant.

Determination of Applicable Requirements

USB is an existing area source of all NSR regulated pollutants, which means that any modifications (a physical change or a change in the method of operation which increases the amount of air pollutant emitted or causes the emission of a pollutant not previously emitted by the facility) that constitutes a major source itself will be subject to NSR under the Prevention of Significant Deterioration (PSD) program to determine whether any requirements for Best Available Control Technology (BACT) have been triggered.

Applicable requirements under New Source Performance Standards (NSPS) are determined by date of construction and other details including but not limited to the equipment capacity, material stored, and/or fuel combusted, but are generally not determined directly from the potential to emit of individual equipment or of the entire facility.

Applicable requirements under the State Implementation Plan (SIP) apply based on the activity or equipment generating emissions, although some exemptions based on (low) potential to emit or actual emissions are incorporated into some rules.

The potential to emit for HAP is often relevant to the determination of which National Emission Standards for Hazardous Air Pollutants (NESHAP) are applicable. In general, NESHAPs apply to specifically defined source categories based on equipment or type of facility. For 40 CFR Part 61 NESHAP, potential to emit is not considered. For 40 CFR Part 63, NESHAP, some subparts are applicable only to major sources of HAP, others are applicable only to area sources of HAP, and some subparts include requirements for both major and area sources of HAP.

Applicable Requirements

The following discussions address applicable requirements for processes and equipment at this facility, requirements that typically apply to Title V facilities, and requirements that may appear applicable but are not.

Title V Monitoring

Pursuant to §70.6(a)(3)(i), Title V operating permits must contain all monitoring and analysis procedures or test methods required under applicable monitoring and testing requirements. Where the applicable requirement does not require periodic testing or instrumental or non-instrumental monitoring (which may consist of recordkeeping designed to serve as monitoring), periodic monitoring sufficient to yield reliable data from the relevant period that are representative of the source's compliance with the permit must be included. These monitoring requirements must assure use of terms, test methods, units, averaging periods, and other statistical conventions consistent with the applicable requirement. Periodic monitoring can take the form of direct measurements of emissions or can be achieved through indirect measures, such as recordkeeping or permit limitations. NSPS and NESHAPs are typically written to have periodic monitoring built into their requirements. State regulations, however, often do not have such requirements inherent to them and, so, the Department must design them. The Department relies on knowledge of the facility and process, EPA guidance, and engineering judgment in determining periodic monitoring requirements. This determination is often a case-by-case, unit-specific, pollutant-specific analysis, considering the specific operations of the emissions source, economic and technical feasibility, and risk, among other factors.

New Source Review (NSR) & Prevention of Significant Deterioration (PSD)

There is no modification included in or associated with this permit renewal. Evaluation under the PSD program has not been triggered.

The kilns and brick dryers are subject to an annual SO_2 emissions limit of 56.85 pounds per hour established to prevent the facility from becoming a major source under PSD (see Permitting, Application, and Construction History section and Tunnel Kilns and Dryers (EU 003) under Applicable Requirements section).

Facility-Wide Fugitive Dust

SIP

Part 6.2 of the Rules and Regulations applies to fugitive dust emissions throughout the facility. The main activities (not included in an emission unit) which cause fugitive dust emissions at the facility are vehicle traffic and material handling, transfer, and storage.

Monitoring is accomplished through recordkeeping for the application of water to unpaved areas and recordkeeping of any surfactants or other dust suppression additives used in conjunction with wet suppression. The majority of material transfer points are enclosed by buildings, which are expected to capture most fugitive dust. The Department has not identified any factors that would necessitate additional monitoring to ensure compliance with Part 6.2.

40 CFR 60, Subpart OOO Applicability

Subpart OOO applies to each crusher, grinding mill, screening operation, bucket elevator, belt conveyor, bagging operation, storage bin, enclosed truck or railcar loading station at a nonmetallic mineral processing plant that commenced construction, modification, or reconstruction after August 31, 1983. Nonmetallic mineral processing plants are defined to be "any combination of equipment that is used to crush or grind any nonmetallic mineral wherever located…" Affected nonmetallic minerals under the subpart are defined at §60.671, which includes clay, shale, sand, and limestone.

The lime and sand storage silos, the sand and slurry coating and mixing operations, the blending feed hoppers, and mixers used for clay processing are not affected sources under §60.670(a).

The following table summarizes the installation and modification details for clay processing equipment at the facility.

Equipment	Installation Date	Modification Date	Modification Details
Primary Crusher	1989	N/A	N/A
Grinder	1960's	2002	Replaced three grinders with one grinder of equivalent capacity
Screens	1960's	N/A	N/A
Flush Out Conveyor	2017	N/A	N/A
Regrind Conveyor	2017	N/A	N/A
Conveyor 1	1960's	N/A	N/A
Conveyor 2	1960's	N/A	N/A
Conveyor 3	1960's	N/A	N/A
Conveyor 4	1960's	2011	Extended conveyor length

Equipment	Installation Date	Modification Date	Modification Details
Conveyor 5	2011	N/A	N/A
Conveyor 6	1960's	N/A	N/A
Conveyor 7	1960's	N/A	N/A
Conveyor 8	1960's	N/A	N/A
Conveyor 9	1960's	N/A	N/A
Conveyor 10	1960's	N/A	N/A
Conveyor 11	1960's	N/A	N/A
Conveyor 12	1960's	N/A	N/A
Conveyor 13	1960's	N/A	N/A
Conveyor 14	1960's	N/A	N/A
Conveyor 15	1960's	N/A	N/A
Conveyor 16	1960's	2011	Extended conveyor length
Conveyor 17	1960's	2011	Replaced in 2011
Conveyor 18	1960's	2011	Replaced in 2011
Conveyor 19	2011	N/A	N/A
Conveyor 20	2011	N/A	N/A
Conveyor 21	2011	N/A	N/A
Conveyor 22	2011	N/A	N/A
Conveyor 23	2011	N/A	N/A
Conveyor 24	2011	N/A	N/A
Conveyor 25	1960's	N/A	N/A

The following table summarizes the applicable limits of Subpart OOO for the affected facilities.

Emissions Source	Opacity Limit
Primary Clay Crusher	15%
Clay Grinding and Storage Building	7%

Pursuant to §60.672(e), for any affected source or conveyor belt transfer point enclosed by a building, USB can either demonstrate compliance with the opacity and PM limits under §60.672(a) and (b) for each affected source, or can demonstrate compliance with the fugitive emissions limit on building openings of 7% for buildings enclosing affected sources.[5] As indicated in the Description of Operations section, the majority of clay processing equipment is located inside the clay grinding building. USB has elected to comply with the 7% opacity limit on building fugitives for these units.

§60.674(c) requires quarterly Method 22 observations for baghouses controlling affected sources that were constructed, modified, or reconstructed after April 22, 2008. Conveyor 5, controlled by baghouse DC02, is potentially subject to this requirement. As USB is complying with the building opacity limit rather than the emission limits under §60.672(a) or (b), this monitoring method does not apply. Subpart OOO itself does not contain any monitoring provisions for buildings complying with the §60.672(e)(1) opacity limit or for uncontrolled crushers; however, USB is required to conduct monthly visible emissions monitoring on the clay grinding building and crusher shed, described in subsequent sections.

[5] https://www.federalregister.gov/d/E9-9435/p-60

§60.672(e)(2) requires that building vents comply with the stack emission limits and compliance requirements of Table 2 of Subpart OOO. The clay grinding and storage building and crusher shed do not contain vents, defined under Subpart OOO as "an opening through which there is mechanically induced air flow for the purpose of exhausting from a building air carrying particulate matter emissions from one or more affected facilities."[6]

The Flush Out Conveyor, Regrind Conveyor, and Conveyors 17-22 are located after the clay is saturated with water in the mixer, and so meet the exemption under §60.670(a)(2) for wet material processing operations.

Conveyors 23, 24, and 25, are located after the ground clay storage bays, where ground clay from the grinding circuit is stored prior to any blending or conveyance to the forming line. These conveyors are not a part of the production line of the nonmetallic mineral processing plant, defined under Subpart OOO to be, "all affected facilities…which are directly connected or are connected together by a conveying system." Conveyor 22 is the last conveyor prior to the depositing of the ground clay in the storage bays. There is no crushing or grinding occurring past this point, and so Conveyors 23-25 are not subject to Subpart OOO.

Nonetheless, Conveyors 17-25, the Flush Out Conveyor, and Regrind Conveyor are all located in the clay grinding and storage building, USB will still be demonstrating compliance with Subpart OOO limits for these units by complying with the 7% opacity limit on fugitives from the entire building.

Additional monitoring requirements will be discussed in subsequent sections, as appropriate.

Clay Processing

The following discussion encompasses the emissions units included in the table below.

Emissions Unit No.	Emissions Unit Description
001	Primary Clay Crusher
	Conveyor 1
	Conveyor 2
	Conveyor 3
002	Grinder
	Screens
	(4) Blending Feed Hoppers
	Flush Out Conveyor
	Regrind Conveyor
	Conveyor 1
	Conveyor 2
	Conveyor 3
	Conveyor 4
	Conveyor 5

[6] It appears that EPA's intent in writing the building fugitive compliance option was for facilities to comply with the 7% opacity limit or the applicable stack PM limit for vents, with the rationale being that emissions can escape from a building either through the building openings or through a powered building vent (https://www.federalregister.gov/d/E9-9435/p-105). However, this "and/or" is only present in the preamble. The rule as promulgated at §60.672(e) is written as an "and" only provision. In either case, the clay grinding and storage building does not contain powered building openings, and so the vent PM limit does not apply.

Emissions Unit No.	Emissions Unit Description
	Conveyor 6
	Conveyor 7
	Conveyor 8
	Conveyor 9
	Conveyor 10
	Conveyor 11
	Conveyor 12
	Conveyor 13
	Conveyor 14
	Conveyor 15
	Conveyor 16
	Conveyor 17
	Conveyor 18
	Conveyor 19
	Conveyor 20
	Conveyor 21
	Conveyor 22
	Conveyor 23
	Conveyor 24
	Conveyor 25

SIP

Part 6.1 of the Rules and Regulations restricts the opacity of emissions from all equipment which releases particulate matter to the atmosphere to no greater than 20%, as determined by a six-minute average, and no greater than 40% during one six-minute period in any sixty-minute period. For the primary clay crusher and units housed inside the clay grinding and storage building, USB will demonstrate compliance with these emissions units by complying with the more stringent opacity limits under Subpart OOO. The outlet for Baghouse DC03, controlling the blending feed hoppers, is located outdoors, and so is subject to the Part 6.1 limit.

Part 6.4 of the Rules and Regulations sets a particulate matter emissions limit from process equipment. The equations of Section 6.4.1 of the Rules and Regulations are used to calculate the emissions limit, based off the process weight.

It is expected that the majority of fugitive emissions and their opacity will be captured by the clay crusher shed and clay grinding and storage building for these units. Proper operation and maintenance of the fabric filters associated with these units will ensure opacity and particulate matter emissions are minimized. USB is required to operate control equipment in accordance with the manufacturer’s specifications at all times, conduct routine inspections, and maintain records of filter replacements.

Monthly visible emissions observations are required for the clay crusher and clay grinding and storage building, described below. For Baghouse DC03, based on the low magnitude of potential emissions, the Department has determined that proper operation and maintenance of the filter will ensure opacity is minimized. Annual production data reporting and emissions calculations

provide data to verify emissions are under the emissions limit. The potential emissions for each emissions unit are less than the calculated limit without additional controls.

No other factors have been identified, at this time, that would necessitate a more conservative monitoring approach.

NSPS

USB is required to conduct monthly observations on the clay crusher shed and clay grinding building, on each wall or corner of the building for 3 minutes, for a total of 12 minutes of observations.[7] There is no monitoring required under Subpart OOO for the building fugitive opacity limit, and so this requirement establishes similar observation time to that of affected baghouses under Subpart OOO (quarterly observations for 30 minutes equivalent to monthly 10 minute observations).

If visible emissions are observed, corrective actions are required within one hour. A follow-up observation must be conducted within 24 hours of the completion of corrective actions. If visible emissions are still observed, a Method 9 must be conducted to quantify opacity within 3 business days.

This procedure requires corrective action upon the observation of *any* visible emissions for *any* amount of time, rather than only if a six-minute average above the opacity limit is observed by a certified individual. Method 9 remains the required test method for quantifying opacity, but is not the only approved method for monitoring.

In general, potential emissions from clay processing are expected to be of lower magnitude. No deviations against the opacity limit have been reported or observed by the Department within the last permit term. For those units controlled by a baghouse, proper operation and maintenance of the baghouse will ensure opacity and particulate matter emissions are minimized. USB is required to operate control equipment in accordance with the manufacturer's specifications at all times, conduct routine inspections, and maintain records of filter replacements. Emissions and opacity from clay processing have not been demonstrated to be or are expected to be sufficiently variable as to require a more conservate monitoring approach. For this reasoning, the Department has determined that the monthly observations are sufficient for monitoring for the SIP and Subpart OOO opacity and particulate matter limits, at this time.

NESHAP

There is no NESHAP applicable to clay crushing, screening, or conveying.

Other Particulate Matter Sources

The following discussion encompasses the emissions units in the table below.

Emissions Unit No.	Emissions Unit Description	Control Device
004	Fresh Reagent Silo	Cartridge Filter
	Spent Reagent Silo	Cartridge Filter
	(2) Sand Storage Silos	Cartridge Filters
005	Kiln Car Cleaning Station	DC05

[7] This procedure appears to have originated sometime in 2014 during discussions between the Department and USB (then Boral Bricks) concerning modifications made to the grinding room in 2010/2011. This requirement has been inconsistently included in the permit since, but is being (re)included to provide for periodic monitoring against the Subpart OOO and SIP opacity limits.

Emissions Unit No.	Emissions Unit Description	Control Device
006	Sand and Slurry Coating, Mixing, Forming, Cutting, and Stacking Operations	DC04 (only slurry mixing and sand coating), DC06 (scrap belt transfer to pug mill)

SIP

Part 6.1 of the Rules and Regulations restricts the opacity of emissions from all equipment which releases particulate matter to the atmosphere to no greater than 20%, as determined by a six-minute average, and no greater than 40% during one six-minute period in any sixty-minute period. Part 6.4 of the Rules and Regulations sets a particulate matter emissions limit from process equipment. The equations of Section 6.4.1 of the Rules and Regulations are used to calculate the emissions limit, based off the process weight.

For units located inside, it is expected that the majority of fugitive emissions and their opacity will be captured by the building. Due to the low potential emissions from the fabric filters servicing EUs 004, 005, and 006, the Department has determined that proper operation and maintenance of the fabric filters servicing these emissions units will provide sufficient assurance that opacity is minimized. USB is required to operate control equipment in accordance with the manufacturer's specifications at all times, conduct routine inspections, and maintain records of filter replacements.

Annual production data reporting and emissions calculations provide data to verify emissions are under the emissions limit. The potential emissions are less than the Part 6.4 PM limit without additional controls.

No other factors have been identified, at this time, that would necessitate a more conservative monitoring approach for either limit under the SIP.

NSPS

There are no NSPS applicable to these emissions units. These units are not affected sources under 40 CFR 60, Subpart OOO, pursuant to §60.670(a).

NESHAP

There are no NESHAP applicable to these emissions units.

Tunnel Kilns and Dryers

The following discussion encompasses tunnel kilns nos. 1 and 2 and brick dryers nos. 1 through 4 under EU 003.

NSR

The kilns and brick dryers are subject to an annual SO_2 emissions limit of 56.85 pounds per hour (250 tons per year) established to prevent the facility from becoming a major source under PSD (see Permitting, Application, and Construction History section). USB is required to calculate and maintain record of a 12-month rolling total of SO_2 emissions to demonstrate compliance with the NSR limit. Proper operation and maintenance of the DIFF will ensure compliance with the limit and is monitored by a CAM plan.

SIP

Part 6.1 of the Rules and Regulations restricts the opacity of emissions from all equipment which releases particulate matter to the atmosphere to no greater than 20%, as determined by a six-

minute average, and no greater than 40% during one six-minute period in any sixty-minute period.

USB is required to conduct daily observations on the kiln stacks for the presence of visible emissions. If visible emissions are observed, corrective actions are required within one hour. A follow-up observation must be conducted within 24 hours of the completion of corrective actions. If visible emissions are still observed, a Method 9 must be conducted to quantify opacity within 3 business days.

This procedure requires corrective action upon the observation of *any* visible emissions for *any* amount of time, rather than only if a six-minute average above 20% opacity is observed by a certified individual. Method 9 remains the required test method for quantifying opacity, but is not the only approved method for monitoring. There have been no deviations reported against the opacity limit for the kilns/DIFF within the last permit term.

With this renewal, it is being specified that the visible emissions observations must be at least 15 minutes in length. This length was chosen as it mirrors the visible emissions procedure of the brick manufacturing MACT for kilns equipped with DIFF. Opacity from the DIFF is not expected to be or has been demonstrated to be variable enough to require more frequent or longer observations. No other factors have been identified, at this time, that would necessitate a more conservative monitoring approach.

Part 6.4 of the Rules and Regulations sets a particulate matter emissions limit from process equipment. The equations of Section 6.4.1 of the Rules and Regulations are used to calculate the emissions limit, based off the process weight. Potential emissions from the kiln are below the limit without additional controls. Proper operation and maintenance of the DIFF is monitored by the CAM plan, which will ensure particulate matter emissions comply with the limit under Part 6.4. A requirement from Permit No. 4-07-0486-03 requiring regular inspections of the DIFF has also been restored as Condition No. 6 for the kilns and dryers.

Waste heat from the kiln's cooling section is used to heat the dryers. It is generally expected that brick dryers heated by waste heat from the kiln's cooling zone are not a source of combustion emissions, as kilns are designed to prevent combustion gases from entering the cooling zone. It is expected that the dryers will generate minimal, if any, opacity and/or particulate matter emissions, and so it is not necessary to require visible emissions observations, at this time.

Part 7.1 of the Rules and Regulations sets a sulfur oxide, measured as sulfur dioxide, emissions limit for fuel burning installations as 1.8 pounds per million BTU heat input. The combustion of natural gas in the kilns is subject to this limitation. Compliance with the SO_2 NSR limit will ensure compliance with the limit under Part 7.1 of the Rules and Regulations. Further, it is generally expected that pipeline natural gas contains negligible sulfur content and its combustion will result in minimal sulfur oxide emissions.

NSPS

There are no NSPS applicable to clay brick kilns and dryers.

NESHAP

40 CFR 63, Subpart JJJJJ, "National Emission Standards for Hazardous Air Pollutants for Brick and Structural Clay Products Manufacturing," is applicable to brick and structural clay products manufacturing facilities that are major sources of HAP. USB is not a major source of HAP, and so is not subject.

Compliance Assurance Monitoring (CAM)

The requirements of 40 CFR Part 64 apply to a pollutant-specific emissions unit at a major source that is required to obtain a part 70 or 71 permit if the unit satisfies all of the following criteria:

1. The unit is subject to an emission limitation or standard for the applicable regulated air pollutant (or a surrogate thereof), other than an emission limitation or standard that is exempt under §64.2(b)(1);
2. The unit uses a control device to achieve compliance with any such emission limitation or standard; and
3. The unit has potential pre-control device emissions of the applicable regulated air pollutant that are equal to or greater than 100 percent of the amount, in tons per year, required for a source to be classified as a major source. For purposes of this paragraph, "potential pre-control device emissions" shall have the same meaning as "potential to emit," as defined in §64.1, except that emission reductions achieved by the applicable control device shall not be taken into account.

The tunnel kilns satisfy the CAM applicability criteria, as follows:

1. Subject to an annual emissions limitation on SO_2;
2. Uses a dry injection fabric filter to achieve compliance with the limit; and
3. Uncontrolled SO_2 emissions are greater than 100 percent of the major source threshold.

As part of this application and at request of the Department, USB updated the formatting of the CAM plan. No changes were made or proposed; it is only an organizational and cosmetic update.

The following table summarizes the CAM plan requirements.

Performance Indicator	Monitoring Approach	Frequency	Indicator Range
Reagent feed rate	Recording of frequency of variable frequency drive (VFD) that maintains speed of electric motor powering the reagent system	Once per shift	At or above level established during the most recent performance test
Presence of free-flowing reagent	Visual inspections for presence of free-flowing reagent	Daily	N/A
Opacity	Method 22 observations of the DIFF outlet	Daily	N/A

The system supplying reagent to the DIFF is powered by an electric motor, the speed of which is maintained by the VFD. Monitoring of the VFD ensures that the necessary frequency is being achieved to supply the required speed to the engine, and so the needed amount of reagent.

The fresh reagent silo is equipped with a radar level indicator to monitor the amount of fresh reagent. However, USB provided the rationale with the proposed plan that this is not necessarily indicative of free-flowing reagent, as reagent may flow down one side of the silo and not display a drop in the indicator until several days later. USB determined a visual check to be the most reliable indicator. This rationale was accepted by the Department upon the approval of the CAM plan in 2009.

Daily visible emissions observations are conducted on the kiln, as described in previous sections. The presence of visual emissions does not necessarily correlate to sulfur oxide emissions, but does serve as indicator for filter performance.

The most recent performance tests were conducted in June and July 2010, yielding minimum required reagent feed rates of 70 pounds per hour per kiln for buff brick, 72 pounds per hour per kiln for red body brick, and 142 pounds per hour for both kilns. Performance testing has not been conducted since. Neither the CAM plan nor PSD avoidance measures that established the SO_2 limit provided for a frequency for repeat performance tests.

A requirement is being added with this renewal to conduct performance testing to demonstrate compliance with the SO_2 emissions limit and reassess, and if necessary, reestablish the minimum reagent feed rate to the DIFF every 5 years, and prior to any operational changes that could adversely affect compliance. Testing must be conducted during representative operating conditions that will potentially produce the maximum potential SO_2 emissions, meaning during production that uses the highest sulfur content raw materials. USB may alternatively conduct performance testing for each product type and demonstrate compliance and establish a minimum lime feed rate by product. Reagent feed rate and electric motor frequency must be monitored according to the CAM plan during testing, so that a correlation can be established. An initial test will be required within 180 days of the issuance of this renewal permit.

A frequency of 5 years was chosen as it is consistent with similar requirements in other Title V permits issued by the Department, and also mirrors similar requirements in the brick manufacturing MACT. The Department has not identified any factors that would necessitate more frequent testing. Performance testing serves to periodically re-establish compliance with the SO_2 emissions limit and reassess the minimum lime feed rate, if needed. Emissions from the kiln/DIFF have not been demonstrated to be or are expected to be variable such that more frequent testing would be warranted. The CAM Plan parametric monitoring requirements described above provides for periodic monitoring during typical operations.

Issues related to lime feed being interrupted to the kiln do not justify more frequent testing. Performance testing serves to establish a minimum feed rate to assure compliance with the SO_2 emissions limit, not establish or verify the method by which the presence of lime feed is determined.

Uncontrolled potential emissions for CO, HF, and HCl from the tunnel kilns also exceed the major source threshold by greater than 100 percent. However, there is no applicable emissions limit for any of these pollutants, and no control device is used for CO emissions.

There is no other emissions unit at the facility that satisfies all three applicability criteria.

Permit Shield

USB requests to “continue to include the permit shield provisions” in the permit; however, there is no permit shield in the current permit. A permit shield under Section 18.10 would include a statement that compliance with the permit will be considered compliance with all applicable requirements as of the date of permit issuance. No permit shield under Section 18.10 of the Rules and Regulations has been included in the draft permit.

Alternative Operating Scenarios

An alternative operating scenario is a change to an emission unit that either results in the unit being subject to one or more applicable requirements which differ from those applicable to the emission unit prior to the implementation of the change or renders inapplicable one or more requirements previously applicable to the emission unit prior to the implementation of the change. There are no reasonably anticipated alternative operating scenarios for any emission unit at the facility.

Public Participation & Comment Periods

There will be a 30-day public comment period for this draft permit. Comments should be limited to only the current permitting action. Any person may request a public hearing during the public comment period. Public notice will be given by publication in a local newspaper regarding the availability of the draft permit, application and statement of basis on the Department's website. Additional community outreach measures for this permit renewal include providing a copy of the public notice to the appropriate city and county executives, and to other persons who have submitted a written request to be notified of permit actions.

The ADEM will have the opportunity to comment during the 30-day public comment period. EPA will have 45 days to comment on the proposed permit, beginning when the proposed permit is submitted. EPA may elect to treat the draft for public comment as a proposed permit for concurrent review unless there are significant comments which result in changes to the draft.

The deadline for submitting a citizen petition asking EPA to object to the permit will be determined as if EPA's 45-day review period is performed after the public comment period has ended (i.e. sequentially), even if EPA actually reviews the permit concurrently with the public notice period. Refer to EPA's website for accurate information on the petition deadline: https://www.epa.gov/caa-permitting/alabama-proposed-title-v-permits.

The Department has established an email list for persons who wish to be notified of public comments periods by email. To request to be added to this list, send an email to airpermitcomments@jcdh.org.

Summary of Permit Revisions

The following list summarizes the revisions made to the draft permit:

- Updated the wording and citations of general conditions, where needed
- Included additional definitions from Part 1.3 of the Rules and Regulations and 40 CFR 60, Subpart OOO
- Reformatted emissions unit organization and descriptions
- Removed the emergency provision and definition, consistent with its removal from the Rules and Regulations, as of August 14, 2024
- Updated the wording for the reporting of deviations, malfunctions, and violations to better align with the wording of Section 1.12.2 of the Rules and Regulations
- Updated the summary tables to reflect reformatting of the emissions units and include any corrections/changes to the applicable monitoring, as needed
- Clay Processing Changes (EUs 001 and 002)
    - Added a general applicability condition as Condition No. 1 to summarize rule applicability

- Added Condition No. 2, "40 CFR 60, Subpart OOO Applicability," No. 3, "40 CFR 60, Subpart OOO Equipment Replacement, Modification, and Reconstruction," No. 4, "40 CFR 60, Subpart OOO Wet Material Processing Operations," and No. 5, "40 CFR 60, Subpart OOO Production Line Applicability," to outline the different conditions under which Subpart OOO is applicable
- Reformatted Condition No. 6, "Opacity Limits" to account for the emissions unit reorganization and specify that for the primary clay crusher and each emissions source housed in the Clay Grinding and Storage Building that compliance with the opacity limit under Section 6.1.1 of the Rules and Regulations will be demonstrated by complying with the limits under Subpart OOO
- Included visible emissions observations on the clay crusher shed and clay grinding and storage building as Condition No. 7, "Opacity Monitoring"
- Included the General Condition wording of "Maintenance of Controls," as a Condition No. 9
- Included more detailed reporting and recordkeeping requirements

· Tunnel Kilns and Dryers Changes (EU 003)
- Added a general applicability condition as Condition No. 1 to summarize rule applicability
- Removed Condition No. 3, "Compliance Assurance Monitoring (CAM)," No. 6, "Monitoring Parameters," No. 7, "Analytical Devices Required," and No. 8, "Free Flowing Reagent," and replaced with Condition No. 8, "Compliance Assurance Monitoring," to consolidate the CAM requirements in one condition, update the performance testing requirements, and include the requirements of 40 CFR 64 more explicitly, where needed
- Specified that kiln daily visible emissions observations must be at least 15 minutes in length
- Specified that a Method 9 observation is required within 3 business days if visible emissions are still present from the kilns after corrective actions
- Restored wording from Permit No. 4-07-0486-03 relating to control equipment maintenance as Condition No. 6, "Maintenance Requirements"
- Added Condition No. 7, "Performance Testing," outlining periodic performance testing requirements
- Included more detailed reporting for the annual emissions report

· Other Particulate Matter Sources Changes (EUs 004, 005, and 006)
- Added a general applicability condition as Condition No. 1 to summarize rule applicability
- Included the General Condition wording of "Maintenance of Controls," as a Condition No. 9
- Included more detailed reporting and recordkeeping requirements.

Changes Made As a Result of Comments Received

If changes are made to the draft permit and/or Statement of Basis as a result of public comments received, this section will be updated to describe them. The revised Statement of Basis will accompany the proposed permit as re-submitted to EPA if significant public comments are received.

Facility Wide Summary	
Pollutant	**Potential Emissions (tpy)**
PM	47.07953701
PM10	47.07953701
PM2.5	47.07953701
SO2	249.2074
CO	120.8004
NOx	31.8864
VOC	7.9716
HF	0.334086377
HCl	0.167043189
Antimony	0.000111239
Arsenic	0.000177577
Beryllium	2.45652E-05
Cadmium	0.000148898
Chromium	0.001580711
Cobalt	0.000148898
Lead	6.846E-04
Manganese	0.004662954
Mercury	0.002510598
Nickel	0.001113354
Selenium	0.000499513
D/F	4.03627E-08
1,1,1-Trichloroethane	0.000535236
1,4 -Dichlorobenzene	0.00546624
Benzene	0.330252
Bis(2-ethyhexy)phthalate	0.22776
Carbon disulfide	0.00489684
Chloroethane	0.0649116
Chloromethane	0.0762996
Di-n-butylphthalate	0.0159432
Ethylbenzene	0.00501072
M-/p-xylenes	0.00762996
Iodomethane	0.01059084
Naphthalene	0.0074022
o-xylenes	0.00660504
Phenol	0.00979368
Stryene	0.0022776
Tetrachloroethene	0.000318864
Toluene	0.0182208
Total Non-Pb Metal HAP	0.010978306
Total Volatile HAP	0.79391446
Total HAP	**1.306706953**

PM Fugitives Summary				
Pollutant	**Material Handling, Storage, and Transfer (tpy)**	**Stockpiling (tpy)**	**Vehicle Traffic (tpy)**	**Total (tpy)**
PM	2.278861675	0.314800012	46.0204386	**48.61410029**
PM10	1.077839981	0.148891898	10.68585907	**11.91259094**
PM2.5	0.163215769	0.022546487	1.837326305	**2.023088561**

PM Emissions

Assumed that PM=PM10=PM2.5

Primary Clay Crusher

Annual Hours of Operation	8760	**hrs/yr**
Maximum Throughput	100	**tons/hr**
AP-42 Emissions Factor for Crusher with Fabric Filter	0.00059	**lb/ton**
Assumed Fabric Filter Efficiency	0.99	
Derived Uncontrolled Emissions Factor	0.059	**lb/ton**
Crushed Shed Capture Efficiency	0.3	
PM/PM10/PM2.5 Emissions	**18.0894**	**tpy**
Part 6.4 PM Limit	158.4058362	**tpy**

Controlled PM Sources

Emissions Source	Process Throughput (tons/hr)	Flow Rate (SCFM)	Building Capture Efficiency	Emissions Factor	Units	Source	Potential Emissions (tpy)	Part 6.4 PM Limit
DC01	**100**	29300	0.9	0.02	gr/scf	2003 Stack Testing for Clay Grinding Fabric Filter	**2.200011429**	158.4058362
DC02	**100**	25000	0.9	0.02	gr/scf	2003 Stack Testing for Clay Grinding Fabric Filter	**1.877142857**	158.4058362
DIFF	**26**	44494	0	0.00203	gr/scf	2010 Stack Testing	**3.390976728**	33.52508911
Dryer Stacks	**26**	36805	0	0.001	gr/scf	2006 Stack Testing	**1.381764857**	19.21488226
Fresh Reagent Silo Bin Vent	**14.20091324**	1500	0	0.02	gr/scf	Engineering Judgmenet	**1.126285714**	16.92741634
Spent Reagent Storage Silo Bin Vent	**14.20091324**	648	0	0.02	gr/scf	Engineering Judgmenet	**0.486555429**	10.05982901
(2) Sand Storage Silo Bin Vents	**90**	1000	0	0.02	gr/scf	Engineering Judgmenet	**1.501714286**	155.757863
DC03	**100**	10000	0	0.02	gr/scf	2003 Stack Testing for Clay Grinding Fabric Filter	**7.508571429**	158.4058362
DC04	**160**	2500	0	0.02	gr/scf	Engineering Judgmenet	**1.877142857**	170.7773914
DC05	**26**	10000	0	0.02	gr/scf	Engineering Judgmenet	**7.508571429**	54.87999907
DC06	**100**	1750	0.9	0.02	gr/scf	Engineering Judgmenet	**0.13140**	158.4058362
						Total from Clay Processing Filters	**11.71713**	
						Total PM	**28.99013701**	
						Total PM10	**28.99013701**	
						Total PM2.5	**28.99013701**	

Kilns Emissions (except PM)				
DIFF Flow Rate	44494	**SCFM**		
Number of Kilns	2	**kilns**		
Annual Hours of Operation	8760	**hrs/yr**		
Process Throughput	13	**tons/hr**	**ea**	
Yearly Process Throughput	227760	**tons/yr**	**combined**	
Heat Input (Combined)	42.92	**MMBTU/hr**		
Kilograms to Pounds Conversion	2.2046	**kg/lb**		
Pollutant	**Emissions Factor**	**Unit**	**Source**	**Potential Emissions (tpy)**
SO2	56.85	lb/hr	Permit Limit	**249.003**
	38.84666667	lb/hr	2010 Stack Test for Red Body	**170.1484**
CO	0.89	lb/ton	2006 Stack Test	**101.3532**
NOx	0.28	lb/ton	2006 Stack Test	**31.8864**
VOC	0.04	lb/ton	2006 Stack Test	**4.5552**
HF	0.0002	gr/dscf	2010 Stack Test	**0.334086377**
HCl	0.0001	gr/dscf	2010 Stack Test	**0.167043189**
Antimony	1.15E-05	kg/hr	2010 Stack Test	**1.11E-04**
Arsenic	1.84E-05	kg/hr	2010 Stack Test	**0.000177577**
Beryllium	2.54E-06	kg/hr	2010 Stack Test	**2.45652E-05**
Cadmium	1.54E-05	kg/hr	2010 Stack Test	**1.49E-04**
Chromium	1.64E-04	kg/hr	2010 Stack Test	**0.001580711**
Cobalt	1.54E-05	kg/hr	2010 Stack Test	**0.000148898**
Lead	7.09E-05	kg/hr	2010 Stack Test	**0.000684621**
Manganese	4.83E-04	kg/hr	2010 Stack Test	**0.004662954**
Mercury	2.60E-04	kg/hr	2010 Stack Test	**0.002510598**
Nickel	1.15E-04	kg/hr	2010 Stack Test	**0.001113354**
Selenium	5.17E-05	kg/hr	2010 Stack Test	**0.000499513**
D/F	2.10E-09	kg/hr	2010 Stack Test	**2.03E-08**
1,1,1-Trichloroethane	4.70E-06	lb/ton	AP-42 11.3-6	**0.000535236**
1,4 -Dichlorobenzene	4.80E-05	lb/ton	AP-42 11.3-6	**0.00546624**
Benzene	2.90E-03	lb/ton	AP-42 11.3-6	**0.330252**
Bis(2-ethyhexy)phthalate	2.00E-03	lb/ton	AP-42 11.3-6	**0.22776**
Carbon disulfide	4.30E-05	lb/ton	AP-42 11.3-6	**0.00489684**
Chloroethane	5.70E-04	lb/ton	AP-42 11.3-6	**0.0649116**
Chloromethane	6.70E-04	lb/ton	AP-42 11.3-6	**0.0762996**
Di-n-butylphthalate	1.40E-04	lb/ton	AP-42 11.3-6	**0.0159432**
Ethylbenzene	4.40E-05	lb/ton	AP-42 11.3-6	**0.00501072**

Kilns Emissions (except PM)				
Pollutant	**Emissions Factor**	**Unit**	**Source**	**Potential Emissions (tpy)**
M-/p-xylenes	6.70E-05	lb/ton	AP-42 11.3-6	**0.00762996**
Iodomethane	9.30E-05	lb/ton	AP-42 11.3-6	**0.01059084**
Naphthalene	6.50E-05	lb/ton	AP-42 11.3-6	**0.0074022**
o-xylenes	5.80E-05	lb/ton	AP-42 11.3-6	**0.00660504**
Phenol	8.60E-05	lb/ton	AP-42 11.3-6	**0.00979368**
Stryene	2.00E-05	lb/ton	AP-42 11.3-6	**0.0022776**
Tetrachloroethene	2.80E-06	lb/ton	AP-42 11.3-6	**0.000318864**
Toluene	1.60E-04	lb/ton	AP-42 11.3-6	**0.0182208**
			Total HAP	**1.306706933**

Dryers				
Annual Hours of Operation	8760	**hrs/yr**		
Process Throughput	13	**tons/hr**	**per paired dryers (i.e. Dryers 1&2 and Dryers 3&4)**	
Yearly Process Throughput	227760	**tons/yr**		
Kilograms to Pounds Conversion	2.2046	**kg/lb**		
Pollutant	**Emissions Factor**	**Unit**	**Source**	**Potential Emissions (tpy)**
SO2	0.046666667	lb/hr	2010 Stack Test for Buff Body	**0.2044**
VOC	0.03	lb/ton	AP-42 11.3.-5	**3.4164**
NOx	0	lb/hr	2007 Stack Test	**0**
CO	4.44	lb/hr	2007 Stack Test	**19.4472**
D/F	2.08E-09	kg/hr	2010 Stack Test	**2.01E-08**

Material Handling, Storage, and Transfer Fugitives							
Emissions factors calculated based on AP-42 13.2.4							
Wind Speed for Outdoor Units	15	mph					
Wind Speed for Indoor Units	5	mph					
Clay Moisture Content	13	%	Source: Facility estimate based off process knowledge and AP-42				
Sand Moisture Content	4.5	%	Source: AP-42 13.2.4-1				
PM Particle Size Multiplier	0.74						
PM10 Particle Size Multiplier	0.35						
PM2.5 Particle Size Multiplier	0.053						
Source	**Number of Units**	**Building Capture Efficiency**	**Throughput (tons/hr)**	**Part 6.4 PM Limit (tpy)**	**PM Emissions (tpy)**	**PM10 Emissions (tpy)**	**PM2.5 Emissions (tpy)**
Truck Loading by Loader	1	0	100	158.4058362	0.314800012	0.148891898	0.022546487
Dump Truck and Front End Loading	1	0	100	158.4058362	0.314800012	0.148891898	0.022546487
Primary Crusher	1	0.3	100	158.4058362	0.052829336	0.024986848	0.003783723
Conveyor 1	1	0	100	158.4058362	0.314800012	0.148891898	0.022546487
Conveyor 2	1	0.8	100	158.4058362	0.015094096	0.007139099	0.001081064
Crude Clay Storage (7 bays)	7	0.8	100	158.4058362	0.105658671	0.049973696	0.007567445
Conveyor 3	1	0.8	100	158.4058362	0.015094096	0.007139099	0.001081064
Front End Transfer to Blending Feeders	1	0.9	100	158.4058362	0.007547048	0.00356955	0.000540532
Grinding and Screening Blending Hoppers	4	0.9	100	158.4058362	0.030188192	0.014278199	0.002162127
Conveyor 5	1	0.9	100	158.4058362	0.007547048	0.00356955	0.000540532
Conveyor from Blending Hoppers	1	0.9	100	158.4058362	0.007547048	0.00356955	0.000540532
Conveyor 13	1	0.9	100	158.4058362	0.007547048	0.00356955	0.000540532
Grinder	1	0.9	100	158.4058362	0.007547048	0.00356955	0.000540532
Conveyor 14	1	0.9	100	158.4058362	0.007547048	0.00356955	0.000540532
Conveyor 6	1	0.9	100	158.4058362	0.007547048	0.00356955	0.000540532
Conveyor 7	1	0.9	100	158.4058362	0.007547048	0.00356955	0.000540532
Conveyor 8	1	0.9	100	158.4058362	0.007547048	0.00356955	0.000540532
Conveyor 9	1	0.9	100	158.4058362	0.007547048	0.00356955	0.000540532
Screens	1	0.9	100	158.4058362	0.007547048	0.00356955	0.000540532
Conveyor 10	1	0.9	100	158.4058362	0.007547048	0.00356955	0.000540532
Conveyor 11	1	0.9	100	158.4058362	0.007547048	0.00356955	0.000540532
Conveyor 12	1	0.9	100	158.4058362	0.007547048	0.00356955	0.000540532
Conveyor 15	1	0.9	100	158.4058362	0.007547048	0.00356955	0.000540532
Conveyor 16	1	0.9	100	158.4058362	0.007547048	0.00356955	0.000540532
Flush Out Conveyor	1	0.9	100	158.4058362	0.007547048	0.00356955	0.000540532
Double Grind Conveyor	1	0.9	100	158.4058362	0.007547048	0.00356955	0.000540532
Conveyor 17	1	0.9	100	158.4058362	0.007547048	0.00356955	0.000540532
Conveyor 18	1	0.9	100	158.4058362	0.007547048	0.00356955	0.000540532
5 Storage Bays	5	0.9	100	158.4058362	0.03773524	0.017847749	0.002702659
Front End Transfer to Blending Feeders	3	0.8	100	158.4058362	0.045282288	0.021417298	0.003243191
Ground Clay Blending Hoppers	3	0.8	100	158.4058362	0.045282288	0.021417298	0.003243191
Additive Feeders	3	0.9	100	158.4058362	0.022641144	0.010708649	0.001621595
Mixer Conveyor	1	0.9	100	158.4058362	0.007547048	0.00356955	0.000540532
Forming Line Conveyor	1	0.9	100	158.4058362	0.007547048	0.00356955	0.000540532
Conveyor to Feed Hoppers for Special Shapes	1	0.9	45	139.4071923	0.003396172	0.001606297	0.000243239
Drop from Extruder Column to Conveyor 4	1	0.9	0.03	1.78806679	2.26411E-06	1.07086E-06	1.6216E-07
Drop from Conveyor 4 to Conveyor 5	1	0.9	0.03	1.78806679	2.26411E-06	1.07086E-06	1.6216E-07
Sand Silo Unloading	2	0	45	139.4071923	0.283320011	0.134002708	0.020291839
Sand Transfer to Totes	2	0	45	139.4071923	0.283320011	0.134002708	0.020291839
Sand Mixing	1	0.9	45	139.4071923	0.003396172	0.001606297	0.000243239
Sand Coating	1	0.9	45	139.4071923	0.003396172	0.001606297	0.000243239
Slurry Mixing	1	0	70	149.6190403	0.220360008	0.104224328	0.015782541
Fresh Reagent Silo Loading	1	0	0.071004566	3.050465038	0.000223522	0.00010572	1.6009E-05
Spent Reagent Silo Unloading	1	0	0.071004566	3.050465038	0.000223522	0.00010572	1.6009E-05
Kiln Car Cleaning	1	0.9	13	77.12824289	0.000981116	0.000464041	7.02691E-05
				From Clay Processing	**1.465150873**	**0.692976764**	**0.104936481**
				From Sand and Slurry Mixing and Coating	**0.227152352**	**0.107436923**	**0.01626902**
				From Silos	**0.567087067**	**0.268216856**	**0.040615695**
				From Kiln Car Cleaning	**0.000981116**	**0.000464041**	**7.02691E-05**
				From Forming and Exturding	**0.018494796**	**0.008747539**	**0.001324627**
				From Blending and Additive Feeders	**0.150940959**	**0.071390994**	**0.010810636**
				Total	**2.278861675**	**1.077839981**	**0.163215769**

Stockpiling Fugitives			
Emissions factors calculated based on AP-42 13.2.4			
Annual Hours of Operation	8760	hrs/yr	
Wind Speed for Outdoor Units	15	mph	
Clay/Shale Moisture Content	13	%	Source: Facility estimate based off process knowledge and AP-42 Shale assumed to have similar moisture content as clay
PM Particle Size Multiplier	0.74		
PM10 Particle Size Multiplier	0.35		
PM2.5 Particle Size Multiplier	0.053		
Derived Stockpile Size Based on 100 Tons/hr Capacity	876000	tpy	
	PM	**PM10**	**PM2.5**
Emissions (tpy)	**0.314800012**	**0.148891898**	**0.022546487**

Vehicle Traffic Fugitives			
Average Vehicle Weight	40	tons	
Number of Days with at least 0.254 mm of Precipitation	125	days	
Assumed Wet Suppression Efficiency	0.3		
Paved Roads - AP.42 13.2.1			
Particle Size Multipliers (lb/VMT)			
PM	0.011		
PM10	0.0022		
PM2.5	0.00054		
Silt Loading	70	g/m2	Source: Facility
Roundtrips per Day	20		
Miles per Roundtrip	0.5		
Vehicle Miles Traveled per Year	3650		
	PM	**PM10**	**PM2.5**
Emissions (tpy)	**26.4254512**	**5.285090241**	**1.297249423**
Unpaved Roads - AP-42 13.2.2			
Particle Size Multipliers (lb/VMT)			
PM	4.9		
PM10	1.5		
PM2.5	0.15		
A Constant			
PM	0.7		
PM10	0.9		
PM2.5	0.9		
B Constant	0.45		
Silt Loading	7.1	%	Source: Facility
Roundtrips per Day	30		
Miles per Roundtrip	0.5		
Vehicle Miles Traveled per Year	5475		
	PM	**PM10**	**PM2.5**
Emissions (tpy)	**19.5949874**	**5.400768824**	**0.540076882**