

STATEMENT OF BASIS
Saint-Gobain Ceramic Materials
Huntsville, Madison County, Alabama
Facility Permit No. 7-09-P056-Z001
Modification

DESCRIPTION OF PERMITTING ACTION

On February 10, 2025, the City of Huntsville Department of Natural Resources and Environmental Management (DNREM) received an application for a modification of the Title V Major Source Operating Permit (MSOP) currently held by the Saint-Gobain Ceramic Materials (“Saint-Gobain”) manufacturing facility located at 219 Cap Adkins Road in Huntsville, Madison County, Alabama.

BACKGROUND

Saint-Gobain is an existing manufacturer of industrial abrasives, refractories and ceramics for use in a range of industrial applications, including grinding wheels and production of wear parts for crushing and grinding equipment. Unit operations include electric arc furnaces, crushing and sizing operations, material handling and conveying, calcining and drying. The various manufacturing unit operations emit particulate matter, which is captured and exhausted through dust collectors (“baghouses”). Particulate matter is the principal pollutant emitted from the manufacturing processes, but smaller amounts of sulfur dioxide and nitrogen oxides are also emitted due to the use of coal and coke as raw materials for some of the abrasive and ceramic grains, and due to combustion of natural gas and LP gas.

PERMITTING HISTORY

Norton Company (“Norton”), the predecessor in interest to Saint-Gobain, applied for their initial Permit to Operate in July 1973. The initial Permit to Operate was issued to the facility on March 7, 1974, following issuance of a compliance schedule the preceding month under which modifications and operational improvements to emission collection and control equipment were implemented on a number of emission sources in order to meet particulate matter emissions limitations. In 1979, Norton Materials applied for Permits to Construct for a major facility expansion that included construction of new buildings, installation of a new electric arc furnace and associated materials processing and handling equipment. Concomitant with the facility expansion were significant upgrades to the emission control equipment serving existing emission sources. These construction permits were issued in January 1980 under the 1978 Prevention of Significant Deterioration (PSD) regulations. Not all of the sources for which permits to construct were issued were actually installed, so the Permits to Operate issued in 1982 reflected the actual construction. Since that time, there have been minor equipment additions and removals which did not trigger PSD.

In early 1992 a raw materials pelletizing system, a small electric arc furnace, and associated emission control equipment were installed. Early in 1994, a small specialty product electric arc furnace and associated emission control equipment were added, and late in 1994, one (1) of the four (4) electric arc furnaces in Building 50 was replaced with a new furnace served by a new baghouse. The replacement furnace was designated as Unit D whereas the three (3) original furnaces continued to be designated as Unit A. The replacement resulted in a modest increase in production capacity and adjustment of the emission limitations imposed on furnacing emissions in

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Modification

Building 50. Also in 1994, the coal drying and associated material handling operations were discontinued, and the equipment was dismantled and removed. Emission increases from the 1994 facility modifications, taken *en toto*, were below the major modification significance threshold for particulate matter.

The initial MSOP was issued to Norton Materials, a Division of Saint-Gobain/Norton Industrial Ceramics Corporation on June 24, 1997. At that time, requirements included in the numerous Air Permits that covered the various emission points at the facility were consolidated into a single document. A significant modification to the MSOP was issued on November 11, 1998 which incorporated requirements associated with installation and operation of a calciner, crusher and sizing equipment, with associated emission capture and control equipment. This modification also reflected elimination of the pelletizing operation installed in 1992. Compliance Assurance Monitoring (CAM) requirements were incorporated into the MSOP at the time of permit renewal on September 27, 2002. Several renewals have been issued since that time. An Air Permit for installation of a rotary dryer to reclaim material historically deposited in settling ponds was issued in January 2009. Applicable requirements associated with this equipment were incorporated into the MSOP at the time of the renewal dated November 13, 2012. At that time requirements for a proposed second rotary dryer and wet scrubber were also included in the MSOP. Concomitant with the 2017 MSOP renewal, requirements pertaining to emergency engines that had become applicable to the facility were incorporated into the MSOP. The current MSOP was issued on November 13, 2022, with no changes from the November 2017 MSOP.

The CY2025 modification of the permit includes an additional product line of abrasive grains to be installed at this facility. The additional line includes crushing/sizing operations, a natural gas-fired dryer, and material handling equipment. The new equipment will be vented to closed vent collection systems (baghouses), which are designed to minimize the fugitive particulate matter emissions. The two new particulate filtering systems will be equipped with cartridge filters plus a HEPA discharge filter system. Emissions from this additional product line will be tracked and reported as applicable. Emission limitations have not been adjusted for this modification of the MSOP. Emission increases from the 2025 facility modifications, taken *en toto*, are below the major modification significance threshold for all criteria pollutants.

The facility is currently operating in full compliance with the terms and conditions of their existing MSOP.

FEDERAL APPLICABLE REGULATIONS

Title V: When the original MSOP was issued, the Saint-Gobain facility was classified as a major source under the Title V regulations due to the potential emissions of particulate matter (PM) exceeding the major source PM threshold. The facility continues to be a major source of PM.

Prevention of Significant Deterioration (PSD) of Air Quality: The Saint-Gobain facility is located in an attainment area for all criteria pollutants. In 1979 the facility applied for Permits to Construct

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Modification

for a major facility expansion. Permits authorizing construction were issued in January 1980 under the PSD regulations promulgated in June 1978. Although the expansion may not have been subject to PSD under the regulation revisions promulgated on August 7, 1980, applicability was not reevaluated and the Permits to Operate were issued in 1982. Consequently, the emissions sources permitted at that time remain subject to the emissions limitations imposed as the result of the PSD review. These sources were the Unit C electric arc furnace in Building 70, the materials processing and handling equipment in Building 70, and the material processing equipment in Building 80.

New Source Performance Standards (NSPS): The emergency engines at Saint-Gobain manufactured after June 6, 2006 are subject to NSPS Subpart IIII for Stationary Compression Ignition Internal Combustion Engines. Saint-Gobain demonstrates compliance with the applicable emissions limitations imposed by this standard through certifications from the engine manufacturer(s). The facility has seven (7) diesel-fueled emergency generators and one (1) diesel-fueled fire pump engine, ranging in power ratings from 133 hp to 463 hp and in date of manufacture from 1997 to 2012. Saint-Gobain is in compliance with the NSPS requirements.

National Emissions Standards for Hazardous Air Pollutants (NESHAP): All of the emergency pump and generator engines at the Saint-Gobain facility are subject to NESHAP Subpart ZZZZ for Reciprocating Internal Combustion Engines (RICE). Saint-Gobain is required to track/record emergency and non-emergency use hours through the use of non-resettable hour meters and maintain maintenance records on the engines to comply with operational limitations required by this standard for emergency engines. The facility has seven (7) diesel-fueled emergency generators and one (1) diesel-fueled fire pump engine, ranging in power ratings from 133 hp to 463 hp and in date of manufacture from 1997 to 2012. Saint-Gobain is in compliance with the NESHAP requirements.

Compliance Assurance Monitoring (CAM): Each dust collector at the facility is subject to the CAM requirements unless Saint-Gobain demonstrates that the maximum dust loading to a particular collector is less than 22.8 lb/hr. Daily VE observations are required for each dust collector exhaust and corrective action is required if there are any visible emissions.

DNREM APPLICABLE REGULATIONS

Visible Emissions (CoH APC RAR, Chapter 6.1): All combustion sources, the electric arc furnaces with fabric filters, crushing, sizing and conveying operations with fabric filters, material handling operations with fabric filters, calciner with fabric filter and rotary dryers with wet scrubbers are subject to visible emission (VE) limitations. Saint-Gobain has an operations and maintenance plan (O&M Plan) in place for emission control equipment to ensure proper operation and minimization of particulate emissions discharged to the atmosphere and is expected to comply with this standard. The Compliance Assurance Monitoring (CAM) requirements discussed previously further buttress the conclusion that Saint-Gobain will comply with VE limits.

STATEMENT OF BASIS
Saint-Gobain Ceramic Materials
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Particulate Emissions (CoH APC RAR, Chapter 6.4): The electric arc furnaces with fabric filters, crushing, sizing and conveying operations with fabric filters, material handling operations with fabric filters, calciner with fabric filter and rotary dryers with wet scrubbers are each subject to the process weight curve particulate matter (PM) emission limitations in Section 6.4.1, with the exception of those sources which underwent PSD review. Saint-Gobain has an O&M Plan in place for emission control equipment to ensure proper operation and minimization of particulate emissions discharged to the atmosphere and is expected to comply with this standard. The Compliance Assurance Monitoring (CAM) requirements discussed above further buttress the conclusion that Saint-Gobain will comply with the PM emission limits in section 6.4.1.

MONITORING

As noted above, daily VE observations are required for each dust collector exhaust under the CAM requirements. Monitoring of emission control device operating parameters is required under the dust collector O&M Plan. In addition, periodic stack testing is required for the baghouses serving the electric arc furnaces in Buildings 50, 70 and 90.

RECORDKEEPING

Saint-Gobain is required to keep all records required by the MSOP for no less than five (5) years.

Saint-Gobain is required to keep records of material throughput, fuel usage, emission calculations; the most recent O&M Plan and results of control device inspection and corrective action; stack test results; CAM VE observations, excursions and corrective actions; NESHAP 4W operator training and work practice inspections; and emergency engine maintenance and usage. Saint-Gobain is in compliance with these requirements.

REPORTING

Saint-Gobain is required to prepare and submit semi-annual monitoring reports and annual compliance certifications to DNREM detailing actual emissions, fuel usage, and compliance status with all permit requirements. Saint-Gobain is in compliance with this requirement.

PUBLIC NOTICE

The issuance of the renewal of Saint-Gobain's Title V MSOP requires a thirty-(30)-day public comment period and a forty-five-(45)-day EPA review period (tandem comment period and EPA review period requested).

RECOMMENDATION

The Statement of Basis indicates that all these sources will meet the requirements of all federal and City of Huntsville Rules and Regulations, as described. Therefore, I recommend that the Title

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Modification

V MSOP be issued to Saint-Gobain pending resolution of any comments received during the public comment and EPA review periods described above.

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City of Huntsville