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ENVIRONMENTAL PROTECTION DIVISION

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NARRATIVE

TO: Heather Brown

FROM: Cassie Smith

DATE: February 11, 2022

Facility Name:	**Building Materials Mfg. Corporation**
AIRS No.:	031-00064
Location:	Statesboro, GA (Bulloch County)
Application #:	28209
Date of Application:	November 22, 2021

Background Information

Building Materials Mfg. Corporation is a polyisocyanurate (ISO) foam board manufacturing facility located in Bulloch County. The facility is classified as a synthetic minor source and currently operates under Air Quality Permit No. 3086-031-0064-S-01-0, issued December 6, 2011, and Permit Amendment Nos. 3086-031-0064-S-01-1 and 3086-031-0064-S-01-2, issued September 20, 2019 and March 12, 2020, respectively.

Purpose of Application

Application No. 28209, dated November 22, 2021, was submitted for the purpose of clarifying operating limits, monitoring, and recordkeeping requirements for the RTO (Source Code RTO1) and Foam Board Manufacturing Process (Source Code L01).

Permit Amendment No. 3086-031-0064-S-01-1 incorporated a new regenerative thermal oxidizer (RTO) to control VOC emissions from the pour table and laminator. The RTO has been installed but commissioning and startup have been delayed due to COVID-19. It was assumed that the RTO would achieve a minimum THC destruction efficiency of 98 percent, however several issues were noted during the installation process:

- RTO1 was added as a retrofit, which may impact its performance with respect to process and associated ventilation systems.

- The RTO destruction removal efficiency (DRE) will degrade over the life of the unit.

- Compliance with the minimum RTO DRE requirements is achieved by maintaining combustion zone temperatures at or above a specified value. Reducing the minimum RTO DRE would allow the facility to reduce the minimum combustion zone temperature, which would provide cost and energy savings.

- The RTO was installed on a voluntary basis. There are no state or federal regulations requiring a specific minimum DRE.

Based on these considerations, the facility has requested to revise the RTO DRE from 98% to 95%.

Additionally, the facility would like to remove HAP recordkeeping requirements. The application associated with the original permit did not accurately reflect as-built blowing agent storage. Specifically, the methodology used to estimate emissions from blowing agent storage assumed that vapors displaced from the tank during loading would be emitted to the atmosphere. However, the tank is actually a nitrogen-blanketed pressurized bullet tank that is not designed to vent under normal operations. The only emissions that occur during blowing agent storage tank loading are attributable to disconnection of the loading hose.

The mischaracterization of the blowing agent tank in the original application resulted in grossly over-estimated potential hexane emissions (10.8 tpy). This resulted in the necessary HAP limit in Condition 2.1 and associated recordkeeping requirements. As part of the 2019 application for the installation of the new RTO, the facility updated tank unloading/loading emissions estimates to better reflect as-built conditions. Given that the facility is a true minor source of HAPs as shown in the table below, record maintenance and monthly HAP emission calculations as specified in Conditions 7.4, 7.5, and 7.6 are not necessary.

Pollutant	Potential Controlled Emissions (tpy)
$PM/PM_{10}/PM_{2.5}$	8.62
NOx	3.75
SO_2	0.06
CO	2.79
VOC	<99
Max. Individual HAP	0.10
Total HAP	0.15
CO_2e	3,838.59

Permit Conditions

Based on the requested changes, permit conditions from both amendments and the original permit were consolidated into New Air Quality Permit No. 3086-031-0064-S-02-0.

Conditions 1.1 through 1.5 are standard template conditions that are included in all permits.

Condition 2.1 limits the total VOC emissions from the entire facility to less than 99 tpy.

Condition 2.2 subjects the Thermal Fluid Heater and Steam Generator to the PM requirements of Georgia Rule (d).

Condition 2.3 subjects the Thermal Fluid Heater and Steam Generator to the opacity requirements of Georgia Rule (d).

Condition 2.4 subjects the Foam Injection Line to the requirements of Georgia Rule (b).

Condition 2.5 subjects the Foam Injection Line to the requirements of Georgia Rule (e).

Condition 3.1 is a standard template condition for fugitive emissions.

Condition 4.1 requires the facility to operate the baghouse during all times of process operation of the foam injection line.

Condition 4.2 requires maintenance to be performed on all air pollution control equipment.

Condition 4.3 ensures emissions from the foam board manufacturing process are controlled by the RTO at all times the process is in operation

Condition 4.4 requires the RTO to be maintained and operated to ensure a control efficiency of at least 75% when the foam board manufacturing process is in operation.

Condition 4.5 requires the facility to achieve a minimum THC destruction efficiency for the RTO. This efficiency was revised from 98% to 95%.

Condition 4.6 requires the facility to maintain a minimum combustion zone temperature on the RTO of 1550°F during all times of operation, or temperature determined during the most recent performance test.

Condition 4.7 requires the facility maintain a minimum flow rate on the RTO of 5530 cfm, or flow rate determined during the most recent performance test.

Condition 5.1 requires the facility to conduct an inspection of the baghouse to ensure it is operating properly.

Condition 5.2 requires the facility to continuously monitor air flow rate of RTO1. The hourly average inlet “static pressure” was changed to “air flow rate” for consistency.

Condition 5.3 requires the facility to monitor the combustion zone temperature of the RTO.

Condition 6.1 is a standard template condition that outlines the requirements of a performance test, should one be required.

Condition 6.2 requires the facility to conduct a capture efficiency and destruction efficiency test of the RTO within 180 days after startup to determine compliance with Conditions 4.4 and 4.5.

Conditions 7.1 through 7.3 outline the recordkeeping and reporting requirements for demonstrating compliance with the facility-wide VOC emission limitation.

Previous Conditions 7.4, 7.5 and 7.6 were removed for consistency with the proposed changes.

Condition 7.4 (previously 7.7) requires the facility to maintain records of periods during which the baghouse is not controlling emissions form the cutting operations from the foam injection line.

Condition 7.5 (previously 7.8) requires the facility to maintain records of hourly production rates, maintenance and inspection of all dust collection devices and fugitive dust emission points.

Condition 7.6 (previously 7.9) includes notifications the facility must submit to EPD during certain points in the construction process.

Condition 7.7 (previously 7.10) requires the facility to submit written notification of the actual startup date for the RTO in connection to the Foam Board Manufacturing Process (L01).

Condition 7.8 (previously 7.11) requires the facility to maintain records of air flow rate and combustion zone temperature per monitoring requirements of Conditions 5.2 and 5.3.

Conditions 8.1 and 8.2 are standard template conditions.

Condition 8.3 revokes the previous permit and amendments.

Summary & Recommendations

The facility will continue to be a synthetic minor source with respect to Title V. I recommend that Air Quality Permit No. 3086-031-0064-S-02-0 be issued to Building Materials Mfg. Corporation in Statesboro, Georgia.