

NARRATIVE

TO: Jeng-Hon Su
FROM: Susan Jenkins
DATE: January 17, 2023

Facility Name: **Hartybake**
AIRS No.: 12100919
Location: Atlanta, GA (Fulton County)
Application #: 28675
Date of Application: January 4, 2023

Background Information

Hartybake (hereinafter "facility") is an existing commercial bakery located at 6160 Boat Rock Blvd SW in Atlanta (Fulton County). The facility produces yeast-raised bakery products on two lines: the bread/pretzel line and the waffle lines. Permit No. 2051-121-0919-S-02-0 was issued on February 4, 2020 for the operation of the facility and for the construction and operation of a second waffle line.

Minor ingredients, such as flour, yeast, salt, and dry or liquid flavoring are mechanically mixed for each line, allowed to rest, and then shaped into loaves, pretzels, or waffles. The dough is then proofed and baked in the applicable process oven. The product is cooled on a conveyor and packaged. The products from the bread/pretzel line are frozen before being shipped, while products from the waffle line are either sent to dry storage or frozen before being shipped.

Purpose of Application

Application No. 28675 was submitted on January 4, 2023 for the following:

- Notify the Division of the discontinuation of the operation of the Line 1-Bread/Pretzel line (including indirect-fired oven (ID No. M01) and removal of this line from their existing air permit;
- Removal of electric steam generator from the existing air permit;
- Removal of reference to baghouses/filtration media as the facility made this request to SSPP on January 17, 2023; and
- Construction and operation of one new waffle line: The new waffle line will have a throughput of approximately 20% higher than either of the existing waffle lines and will have natural gas direct-fired burners with a total heat input capacity of 1.976 MMBtu/hr (ID No. WO3).

Updated Equipment List

Emission Units			Associated Control Devices	
Source Code	Description	Installation Date	Source Code	Description
W01	Acemal Waffle Oven (Acemal Tunnel Oven Indirect Direct-Fired 1.65 MMBtu/hr) for Line 2-Waffle Line	2012	--	--
W02	Acemal Waffle Oven (Acemal Tunnel Oven Indirect Direct-Fired 1.65 MMBtu/hr) for Line 3-Waffle Line	2020	--	--
W03*	Acemal Waffle Oven (Acemal Tunnel Oven Direct-Fired 1.976 MMBtu/hr) for Line 3-Waffle Line	2023*	--	--

*proposed within current application

Emissions Summary

The emissions from the natural gas combustion sources are based on AP-42 emission factors and the maximum heat input capacity of the sources.

The emissions from the baked products were calculated using the document "Alternative Control Technology Document for Bakery Oven Emissions" (EPA 453/R-92-017, December 1992) as stated in AP-42 Fifth Edition, Volume I Chapter 9: Food and Agricultural Industries. Until testing is conducted on the baked products, it is assumed that all VOC emissions from the flavoring are emitted.

The potential emissions are based on 8,760 hours of operation per year. The actual emissions are based on a 24 hour/day, 6 day/week, and 52 weeks/year operating schedule.

VOC emissions from the facility limited with applicable conditions. Potential PM, PM₁₀, PM_{2.5}, NO_x, CO, SO₂ and hazardous air pollutants (HAPs) emissions are below the major source thresholds.

The facility operates under a facility-wide VOC emissions limit of 40 tons during any consecutive twelve-month period. The proposed third baking line will increase the actual emissions from the facility by approximately 13.24 tons per consecutive twelve-month period based on data from the existing waffle lines.¹

Facility-Wide Emissions

(in tons per year)

Pollutant	Potential Emissions			Actual Emissions		
	Before Mod.	After Mod.	Emissions Change	Before Mod.	After Mod.	Emissions Change
PM/PM ₁₀ /PM _{2.5}	3.67E-02	4.30E-02	6.3E-03	<3.67E-02	<4.3E-02	6.3E-03
NO _x	1.93	2.26	0.33	<1.93	<2.26	<0.33

¹ The facility switched mostly from liquid flavors to powder flavors starting in mid-February 2022 which significantly decreased the flavor VOC emissions.

Pollutant	Potential Emissions			Actual Emissions		
	Before Mod.	After Mod.	Emissions Change	Before Mod.	After Mod.	Emissions Change
SO ₂	1.16E-02	1.36E-02	2.0E-03	<1.16E-02	<1.36E-02	<2.0E-03
CO	1.62	1.90	0.28	<1.62	<1.90	<0.28
VOC	40	40	0.0	20.16	33.40	13.24
Max. Individual HAP (Hexane)	3.47E-02	4.07E-02	6.0E-03	<3.47E-02	<4.07E-02	<6.0E-03
Total HAP	3.64E-02	4.27E-02	6.3E-03	<3.64E-02	<4.27E-02	<6.3E-03
Total GHG (if applicable)	245.33	287.72	42.39	<245.33	<287.72	<42.39

Regulatory Applicability

Georgia Rule 391-3-1-.02(2)(b) – "Visible Emissions": The opacity limit is less than 40 percent and this limit applies to the existing facility **and the proposed waffle line**.

Georgia Rule 391-3-1-.02(2)(d) – "Fuel-Burning Equipment": This state rule applies to equipment defined as "fuel-burning equipment" per Georgia Rule 391-3-1-.01(cc). **The facility corrects the labels for the existing ovens from "indirect-fired" to "direct-fired". Therefore, Georgia Rule (d) does not apply.**

Georgia Rule 391-3-1-.02(2)(e) – "Particulate Emission from Manufacturing Processes": This state rule limits PM emissions from the existing facility (excluding indirect-fired fuel-burning equipment) **and the proposed waffle line**.

Georgia Rule 391-3-1-.02(2)(g) – "Sulfur Dioxide": This state rule limits the fuel sulfur content of fuel combusted in fuel-burning sources to less than 2.5 weight percent. **The facility (including proposed waffle line) will only combust natural gas which contains negligible amounts of sulfur and therefore there is a reasonable assurance of compliance with this state rule and the operation of the new waffle line.**

Georgia Rule 391-3-1-.02(2)(tt) – "VOC Emissions from Major Sources": This state rule applies to the facility because potential VOC emissions from the facility equal or exceed 25 tons during any consecutive twelve-month period. In this case, this state rule requires the implementation of "reasonably available control technology (RACT)" for VOC emissions. The existing VOC RACT requirements include the following: (1) Facility-wide VOC emissions limit of less than 40 tons during any consecutive twelve-month period; and (2) The Permittee shall use powder flavorings when possible. **No changes to the existing VOC RACT requirements are necessary based on this permit application.**

Georgia Rule 391-3-1-.03(8)(c)14 – "Additional Provisions for Ozone Non-Attainment Areas" for Construction and Operation This state rule establishes the major source threshold for VOC emissions from sources located in counties which includes Fulton County. The facility is classified as a synthetic minor source based on the existing facility-wide VOC emissions limit of 40 tons during any consecutive twelve-month period. **No changes to this existing VOC emission limit is necessary based on this permit application.**

Avoidance of 40 CFR 70: The Title V major source threshold for VOC emissions from Fulton County is 100 tons during any consecutive twelve-month period. The facility is classified as a synthetic minor source based on the existing facility-wide VOC emissions limit of 40 tons during any consecutive twelve-month period. **No change to this existing VOC emission limit is necessary based on this permit application.**

There are no applicable Area Source generally available control technology (GACT) Standards under 40 CFR 63 which apply to the facility or the proposed waffle line.

Permit Conditions

Existing Condition 2.3 is deleted because the facility does not operate "fuel-burning equipment" per the definition at Georgia Rule 391-3-1-.01(cc).

Existing Conditions 4.1, 4.2, and 5.1 through 5.3: Facility requested reference to "filtration media" and "baghouses" be removed from their air permit as they don't operate or plan on operating such devices.

Existing Condition 7.1 is modified to remove reference to "bread" and for the addition of "waffle", as applicable.

Existing Condition 7.2 is modified to remove reference to "bread" and for the addition of "waffle", as applicable.

New Condition 8.3: Existing Permit Nos. 2051-121-0919-S-01-0, 2051-121-0919-S-01-1, and 2051-121-0919-S-01-2 appear to still be in effect. This new condition serves to revoke these permit numbers.

Toxic Impact Assessment

The potential emissions of all applicable toxic air pollutants (TAPs) were evaluated against their respective "minimum emissions rate (MER)" and all potential emissions values were less than their applicable MER. Therefore, there is a reasonable assurance of compliance with the Georgia Air Toxics Guideline without modeling.

TAP	MER (lb/yr)	PTE (lb/yr)	Requires an Assessment?
Arsenic	5.67E-02	1.0E-04	No
Beryllium	0.973	5.44E-04	No
Benzene	31.6	9.5E-02	No
Cadmium	1.35	4.98E-02	No
Chromium VI (Particulate)	24.3	0.0634	No
Cobalt	11.7	3.8E-04	No
Dichlorobenzene (1,2)	17,400	0.0544	No
Dichlorobenzene (1,4)	195,000	0.0544	No
Ethanol	219,000	80,000	No
Formaldehyde	267	3.4	No

TAP	MER (lb/yr)	PTE (lb/yr)	Requires an Assessment?
Hexane (n-)	170,000	81.4	No
Lead	5.84	2.26E-02	No
Manganese	12.2	1.72E-02	No
Mercury	73.0	1.176E-02	No
Naphthalene	730	2.76E-02	No
Nickel	38.6	9.5E-02	No
Selenium	23.4	1.086E-04	No
Toluene	1,220,000	0.1538	No

Summary & Recommendations

I recommend issuance of Permit No. 2051-121-0919-S-02-1 to Hartybake for the following: (1) Discontinuation of the operation of Line 1-Bread/Pretzel line (including direct-fired oven (ID No. M01)) and for removal of this manufacturing line from their existing air permit; (2) Removal of electric steam generator from the existing air permit; and (3) Construction and operation of one new waffle line (including direct-fired oven W03 rated at a total heat input capacity of 1.976 MMBtu/hr). A Public Advisory was issued on January 11, 2023, with an expiration date of February 10, 2023. Compliance will remain with the SSCP-VOC and Combustion Unit.