STATEMENT OF BASIS
FLOWERS BAKERY OF MONTGOMERY, LLC
MONTGOMERY, MONTGOMERY COUNTY, ALABAMA
FACILITY/PERMIT NO. 209-0074

This proposed Title V Major Source Operating Permit (MSOP) renewal has been developed in accordance with the provisions of ADEM Admin. Code chap. 335-3-16. The above-named applicant has requested authorization to perform the work or operate the facility shown on the application and drawings, plans, and other documents attached hereto or on file with the Air Division of the Alabama Department of Environmental Management, in accordance with the terms and conditions of this permit.

Flowers Bakery of Montgomery, LLC (Flowers) was originally constructed/began operations in 1982. Per ADEM Admin Code r. 335-3-16-.12(2), an application for permit renewal shall be submitted at least six (6) months, but not more than eighteen (18) months, before the date of expiration of the permit. Based on this rule, the application for renewal was due to the Department no later than February 6, 2025, but no earlier than February 6, 2024. The initial application for this renewal was received via email on February 5, 2025 (hard copy received February 10, 2025), with an addendum received via email on February 13, 2025, and deemed complete on February 13, 2025. The initial MSOP was issued on August 7, 2000, and this is the fifth renewal. The current MSOP was issued on May 28, 2020, became effective on August 7, 2020, and is scheduled to expire on August 6, 2025.

The facility is located in Montgomery County, which is currently listed as attainment/unclassifiable with all National Ambient Air Quality Standards (NAAQS).

There are no current or ongoing enforcement actions against Flowers necessitating additional requirements to achieve compliance with the proposed permit conditions. The enforcement and compliance history for the facility can be found at https://echo.epa.gov/ (Search using Facility ID AL0000000110100074).

Facility Operations

Flowers Bakery of Montgomery, LLC (Flowers) is a commercial bakery (SIC 2051) located in Montgomery, Montgomery County. Flowers produces bread and rolls using straight dough, sponge dough, and liquid brew processes. The ovens emit VOC (primarily ethanol) during the baking process in addition to emitting the products of combustion. The ethanol is formed during the fermentation process and is released from the dough during the baking process. There are no controls to reduce emissions resulting from combustion in the boilers and ovens, or to reduce Volatile Organic Compounds (VOC) emitted during the baking process. However, bin vent filters are used to control particulate emissions from the flour silos. An ink application process is utilized for date coding the bread and roll packages. Significant sources of air pollutants at this facility include:

Emission Unit No. 001: One (1) 5.85 MMBtu/hr Latendorf Wilco Model 6076 Natural Gas-fired Bread Baking Oven (Oven No. 1)

Emission Unit No. 002: One (1) 4.05 MMBtu/hr Baker Perkins Model 960 Natural Gas-fired Roll Baking Oven (Oven No. 2)

Emission Unit No. 003: One (1) 3.3 MMBtu/hr Baker Perkins Model 960 Natural Gas-fired Roll Baking Oven (Oven No. 3)

Emission Unit Nos. 004-007: Four (4) 150,000-lb Capacity Fred Pfeng Corporation Flour Storage Silos (Silo Nos. 1-4)

Emission Unit No. 008: One (1) 100,000-lb Capacity Fred Pfeng Corporation Flour Storage Silo (Silo No. 5)

Emission Unit No. 009: Ink Application Process

Emission Unit No. 011: One (1) 3.7 MMBtu/hr Sugdens Ltd. English Muffin Griddle Natural Gas-fired Muffin Baking Oven (Oven No. 5)

Emission Unit No. 012: 218 hp Cummins Model N-855-F Diesel-fired Emergency Reciprocating Internal Combustion Fire Pump Engine

Insignificant sources of air pollutants at this facility include: two (2) 4.184 MMBtu/hr Cleaver Brooks CB700-100 natural gas-fired boilers; gas-fired space heaters; a gas-fired dehumidifier; two (2) parts washers; four (4) raw material storage tanks, and various other process-related tanks and equipment. All combustion sources are able to utilize liquid propane (LP) gas as a backup fuel.

Proposed Changes

There have been no modifications to or additions of significant emission sources at this facility since the issuance of the fourth renewal MSOP.

Permit History

The following is a history of previously issued permits for this facility. Flowers was not issued any Air Permits (AP) prior to the initial MSOP issuance on August 7, 2000:

Issuance No./Permit No.	Limit(s) Established	Issuance Date	Effective Date	Expiration Date	Amendments/ Modifications
Initial Title V MSOP	240 TPY VOC PSD SMS[1] baking emissions limit established	August 7, 2000	August 7, 2000	August 6, 2005	Administrative Amendment - November 5, 2002 - Name Change from Flowers Specialty Foods to Mrs. Smith's Administrative Amendment - October 22, 2003 - Name Change from Mrs. Smith's to Flowers Bakery
1st Title V MSOP Renewal	--	July 20, 2005	August 7, 2005	August 6, 2010	Minor Modification - March 20, 2007 - Incorporation of AP X001 as Emission Unit No. 010

AP X001 – 6.18 MMBtu/hr Muffin Oven (new - Oven No. 4)	Unit added to the existing 240 TPY VOC baking emissions limit with other 3 ovens	January 2, 2007	--	--	--
2nd Title V MSOP Renewal	--	July 1, 2010	August 7, 2010	August 6, 2015	--
3rd Title V MSOP Renewal	--	August 17, 2015	August 17, 2015	August 6, 2020	502(B)10 Flex Mod. - August 15, 2018 - Replace Oven No. 4 (EU 010) with new 3.7 MMBtu/hr Muffin Oven No. 5 (EU 011) - Incorporated into 4th MSOP Renewal
4th Title V MSOP Renewal	--	May 28, 2020	August 7, 2020	August 6, 2025	--

[1]SMS = PSD Synthetic Minor Source

Plant-Wide Potential to Emit (PTE)

Pollutant	PTE (TPY)
PM	1.06
NO_x	16.04
CO	9.37
SO_2	0.09
VOC	241.48
Total HAP	8.40
CO_2e	15,409.00

Applicability: Federal Regulations

Title V

This facility is a major source under Title V regulations because the potential emissions for VOC exceed the 100 TPY major source threshold. It is not a major source of Hazardous Air Pollutants (HAP) because individual HAP potential emissions do not exceed 10 TPY, and the total HAP potential emissions do not exceed 25 TPY.

Prevention of Significant Deterioration (PSD)

This facility is located in an attainment area for all criteria pollutants and the facility operations are not one of the 28 major source categories; therefore, the applicable major source threshold is 250 TPY for criteria pollutants. The facility is a synthetic minor source under PSD because the baking process (Emission Unit Nos. 001-003 and 011) is subject to a VOC emission limit of 240 tons during any consecutive 12-month period, that was established on August 7, 2000, with the issuance of the initial Title V MSOP, to ensure that the facility-wide potential emissions of VOC do not exceed the applicable 250 TPY major source threshold.

New Source Performance Standards (NSPS)

40 CFR Part 60, Subpart Dc, Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units (Subpart Dc) [Adopted by reference in ADEM Admin. Code r. 335-3-10-.02(2)(c)]

Per 40 CFR §60.40c(a), because the rated heat input capacity of each combustion source is less than 10 MMBtu/hr, they would not be subject to this Subpart.

National Emission Standards for Hazardous Air Pollutants (NESHAP/MACT)

Flowers is not a major source of HAP and there are no area source standards applicable to bakery or ink application processes under Section 112 of the Clean Air Act. However, there is a source of HAP at this facility. It has been determined that acetaldehyde is released during the baking process. Based on testing of similar operations, acetaldehyde represents ~3.5% of the total VOC released during the baking process. Therefore, with the VOC emission limit of 240 tons during any consecutive 12-month period, potential emissions of acetaldehyde would be calculated at ~8.4 TPY.

40 CFR Part 63, Subpart ZZZZ, National Emission Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines (Subpart ZZZZ) [Adopted by reference in ADEM Admin. Code r. 335-3-11-.06(103)]

The stationary reciprocating internal combustion engine (RICE) at the facility is an affected source under this Subpart. Under this Subpart, the 218 hp Cummins fire pump engine is classified as an existing emergency compression ignition (CI), diesel fuel injected RICE located at an area source. In accordance with 40 CFR §63.6595(a)(1), this RICE is subject to the requirements of Subpart ZZZZ and Subpart A.

Compliance Requirements

According to 40 CFR §63.6603 and Item No. 4 of Table 2d to Subpart ZZZZ, an existing emergency CI RICE located at an area source of HAP is subject to the following work practice requirements:

- Change oil and filter every 500 hours of operation or within one year plus 30 days of previous change, whichever comes first; or participate in the oil analysis program as allowed by 40 CFR §63.6625(i);
- Inspect air cleaner every 1,000 hours of operation or within one year plus 30 days of previous inspection, whichever comes first, and replace as necessary; and
- Inspect all hoses and belts every 500 hours of operation or within one year plus 30 days of previous inspection, whichever comes first, and replace as necessary.

This engine is being operated as an emergency unit; therefore, in accordance with 40 CFR §63.6640(f), to retain the emergency classification, this engine must be limited to operating during:

- Emergency situations;
- Maintenance checks and readiness testing, not to exceed 100 hours per year; and

- Non-emergency situations, not to exceed 50 hours per year (those 50 hours are counted towards the 100 hours per year provided for maintenance and testing)

40 CFR §63.6625(e)(3) and Item 9 of Table 6 to Subpart ZZZZ, requires this unit be operated and maintained according to the manufacturer's emission related operation and maintenance instructions or develop and follow a maintenance plan which must provide to the extent practicable for the maintenance and operation of the engine in a manner consistent with good air pollution control practices for minimizing emissions. 40 CFR §63.6625(f) requires the installation of a non-resettable hour meter if one is not already installed.

Testing Requirements

According to Tables 4 and 5 of the Subpart, no initial or subsequent performance testing is required for this emergency engine.

Notification, Reports, and Records

According to 40 CFR §63.6655(e)(2), Flowers must keep records of the maintenance conducted on the existing emergency stationary RICE in order to demonstrate the engine is operated and maintained according to their own maintenance plan. 40 CFR §63.6655(f)(2), requires Flowers to maintain records of the hours of operation of the engine that is recorded through the non-resettable hour meter. Flowers must document how many hours are spent for emergency operation, including what classified the operation as emergency, and how many hours are spent for non-emergency operation.

Applicability: State Regulations

ADEM Admin. Code r. 335-3-4-.01, "Control of Particulate Emissions: Visible Emissions"

The units at this facility are each subject to the State visible emissions standards of ADEM Admin. Code r. 335-3-4-.01(1), which states that no air emission source may emit particulate of an opacity greater than 20% (as measured by a six-minute average) more than once during any 60 minute period and at no time shall emit particulate of an opacity greater than 40% (as measured by a six-minute average).

ADEM Admin. Code r. 335-3-4-.02, "Fugitive Dust and Fugitive Emissions"

This rule is applicable. However, all plant roads are paved or graveled. There are no raw materials, storage piles, products, etc. capable of generating fugitive dust at this facility. Therefore, additional specific requirements for fugitive dust are not necessary for this facility.

ADEM Admin. Code r. 335-3-4-.03, "Control of Particulate Emissions: Fuel Burning Equipment"

The ovens are direct-fired fuel combustion sources and are, therefore, not subject to the particulate matter (as TSP) emission limitation of ADEM Admin. Code chap. 335-3-4. Although the engine is a fuel combustion source, it is not subject to any particulate matter (as TSP) emission limitation of ADEM Admin. Code chap. 335-3-4 because it does not meet the definition of fuel burning equipment.

ADEM Admin. Code r. 335-3-4-.04, "Control of Particulate Emissions: Process Industries-General"

The flour storage silos are subject to the particulate matter (as TSP) emission limitation of ADEM Admin. Code r. 335-3-4-.04 for general process industries. The allowable emission rate is calculated by using the appropriate process weight equation depending on the process weight at which the process is operating.

$$E = 3.59(P)^{0.62} \text{ (P < 30 tons per hour)}$$

OR

$$E = 17.31(P)^{0.16} \text{ (P} \geq \text{30 tons per hour)}$$

Where E = Emissions in pounds per hour

P= Process weight in tons per hour

ADEM Admin. Code r. 335-3-5-.01, "Control of Sulfur Compound Emissions: Fuel Combustion"

The ovens are direct-fired fuel combustion sources and are, therefore, not subject to the sulfur dioxide (SO_2) emission limitation of ADEM Admin. Code chap. 335-3-5. Although the engine is a fuel combustion source, it is not subject to any sulfur dioxide (SO_2) emission limitation of ADEM Admin. Code chap. 335-3-5 because it does not meet the definition of fuel burning equipment.

ADEM Admin. Code r. 335-3-6-.22, "Graphic Arts"

The ink application process is not subject to ADEM Admin. Code r. 335-3-6-.22 because the printers do not utilize either the flexographic or rotogravure printing methods subject to this regulation.

Emission Testing and Periodic Monitoring

Combustion Processes

Flowers is required to certify on a semiannual basis that only natural gas or LP gas was burned in the ovens and only diesel fuel was burned in the fire pump engine as a method for monitoring compliance with the visible emission requirements of ADEM Admin. Code r. 335-3-4-.01(1) because opacity would be negligible while combusting natural gas, LP gas, or diesel fuel.

Baking Process

To monitor compliance with the VOC emission limitation for the baking process, Flowers is required to calculate the VOC emissions on a monthly and 12-month rolling total basis within 10 days of the conclusion of each calendar month and determine whether VOC emissions have exceeded the VOC emission limit for the preceding 12-month period. VOC emissions are calculated from the ovens using the pounds of production of each bread/roll formula and the emission factor (EF) derived from the following emission factor equation found in *AP-42, Section 9.9.6 – Bread Baking, February 1997*:

$$\textbf{VOC EF} = 0.95Y_i + 0.195t_i - 0.51S - 0.86t_s + 1.90$$

Where:

VOC EF = Pounds VOC per ton of baked bread
$\mathbf{Y_i}$ = Initial baker's percent of yeast to the nearest tenth of a percent
$\mathbf{t_i}$ = Total yeast action time in hours to the nearest tenth of an hour
S = Final (spike) baker's percent of yeast to the nearest tenth of a percent
$\mathbf{t_s}$ = Spiking time in hours to the nearest tenth of an hour

Flour Storage

The bin vent filters controlling the particulate emissions from the flour storage silos have a design removal efficiency of 95%; therefore, the silos are expected to be able to comply with the particulate matter emission standard of ADEM Admin. Code r. 335-3-4-.04. In addition, emissions from the silos only occur on an intermittent basis. Therefore, emission testing and periodic monitoring to determine compliance with this standard is not considered practical or necessary. However, to monitor compliance with the visible emission standards of ADEM Admin. Code r. 335-3-4-.01(1), Flowers is required to perform weekly observations for greater than normal visible emissions from the flour silos. Flowers is also required to inspect and replace the bin vent filters at least annually, but more frequently if greater than normal visible emissions are observed. Whenever greater than normal visible emissions are observed, corrective actions to minimize emissions are required to be initiated within 24 hours of the observation, followed by an additional observation to confirm that visible emissions have been reduced to normal.

Ink Application Process

There are no applicable standards for the ink application process; therefore, no emission testing or periodic monitoring is required.

Recordkeeping and Reporting

Combustion Processes

As part of their semiannual monitoring report, Flowers is required to certify in writing that only natural gas, LP gas, or diesel fuel was fired in the ovens and fire pump engine, respectively.

Baking Process

Flowers is required to maintain records of production sufficient to calculate VOC emissions. These records consist of a daily record of operations, which include, but may not be limited to, the type and amount of product baked, the yeast percentage for each product, and the fermentation time for each product. These records shall be maintained in a permanent form suitable for inspection and be made available upon request for a period of 5 years from the date of generation of each record. Within 10 days of the conclusion of each calendar month, Flowers is required to calculate and record the VOC emissions for the previous calendar month and 12-month period. Records of VOC emissions shall be maintained in a permanent form suitable for inspection and be made available upon request for a period of 5 years from the date of generation of each record. As part of their semiannual monitoring report, Flowers is required to submit a copy of the monthly and 12-month rolling VOC emission totals for each respective reporting period.

Flour Storage

Flowers is required to maintain records of the date, time, and results of each visible emissions observation; date, time, and nature of any corrective action taken; and date, time, and nature of any emissions-related maintenance performed. These records shall be maintained in a permanent form suitable for inspection and be made available upon request for a period of 5 years from the date of generation of each record.

Fire Pump Engine

40 CFR §63.6655(e)(2), requires Flowers to keep records of the maintenance conducted on the engine in order to demonstrate the unit is operated and maintained according to their own maintenance plan. 40 CFR §63.6655(f)(2), requires Flowers to maintain records of the hours of operation of the engine that is recorded through the non-resettable hour meter. Flowers must document how many hours are spent for emergency operation, including what classified the operation as emergency, and how many hours are spent for non-emergency operation.

In accordance with ADEM Admin. Code r. 335-3-16-.05(c)2(ii), all required records must be maintained in a permanent form suitable for inspection for a period of five years from the date of generation of each record and be made available upon request.

As part of their semiannual monitoring report, Flowers is required to certify that all emission monitoring was accomplished as required. They are also required to report any instances when visible emissions greater than normal were observed and describe the date and nature of any corrective actions taken to return the visible emissions to normal.

Compliance Assurance Monitoring (CAM)

Compliance Assurance Monitoring (CAM), 40 CFR Part 64, applies to any pollutant-specific emission unit at a major source that is required to obtain an operating permit, in accordance with 40 CFR §64.5, if it meets all of the following criteria:

- It is subject to an emission limit or standard for an applicable regulated air pollutant.
- It uses a control device to achieve compliance with the applicable emission limit or standard.
- It has potential emissions, prior to the control device, of the applicable regulated air pollutant of 100 TPY of a criteria pollutant, 10 TPY of an individual HAP, or 25 TPY of total HAP.

The baking process are the only emission sources at the facility that potentially emit greater than 100 TPY of any criteria pollutant; however, these sources do not employ an active control device as defined in the CAM regulations. As such, the facility is not required to submit a CAM plan for this renewal.

Public Participation

The renewal of this Title V MSOP would require a 30-day public comment period and a 45-day EPA review period.

Recommendation

Based on the above analysis, I recommend that Flowers Bakery of Montgomery, LLC's Title V MSOP (209-0074) be renewed with the requirements noted above, pending the resolution of any comments received during the 30-day public comment period and the EPA 45-day review.

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Date

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