

## Application Review

Issue Date: Date needed

**Region:** Asheville  
**County:** Burke  
**NC Facility ID:** 1200141  
**Inspector's Name:** Patrick Ballard  
**Date of Last Inspection:** 05/12/2022  
**Compliance Code:** 3 / Compliance - inspection

<p style="text-align: center;"><b>Facility Data</b></p> <p><b>Applicant (Facility's Name):</b> Bimbo Bakeries USA, Inc. - Valdese</p> <p><b>Facility Address:</b>          Bimbo Bakeries USA, Inc. Valdese          320 East Main Street          Valdese, NC 28690</p> <p><b>SIC:</b> 2051 / Bread Cake and Related Product  <b>NAICS:</b> 311812 / Commercial Bakeries</p> <p><b>Facility Classification: Before:</b> Title V    <b>After:</b> Title V  <b>Fee Classification: Before:</b> Title V    <b>After:</b> Title V</p>	<p style="text-align: center;"><b>Permit Applicability (this application only)</b></p> <p><b>SIP:</b> 15 NCAC 02D .0515, .0516, .0521, .0524 and 02Q .0317  <b>NSPS:</b> 40 CFR 60 Subpart IIII  <b>NESHAP:</b> 40 CFR 63 Subpart ZZZZ  <b>PSD:</b> Minor source  <b>PSD Avoidance:</b> VOC  <b>NC Toxics:</b> N/A  <b>112(r):</b> N/A  <b>Other:</b> N/A</p>
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Contact Data			Application Data
<p style="text-align: center;"><b>Facility Contact</b></p> <p>Christopher Smith          Maintenance Manager          (828) 874-2136          320 East Main Street          Valdese, NC 28690          Christopher.smith@grupo          bimbo.com</p>	<p style="text-align: center;"><b>Authorized Contact</b></p> <p>William Meadows          Plant Manager          (828) 874-2136          320 East Main Street          Valdese, NC 28690          William.Meadows@grup          obimbo.com</p>	<p style="text-align: center;"><b>Technical Contact</b></p> <p>Christopher Smith          Maintenance Manager          (828) 874-2136          320 East Main Street          Valdese, NC 28690          Christopher.smith@grupo          bimbo.com</p>	<p><b>Application Number:</b> 1200141.21B  <b>Date Received:</b> 08/16/2021  <b>Application Type:</b> Renewal  <b>Application Schedule:</b> TV-Renewal  <b>Existing Permit Data</b>  <b>Existing Permit Number:</b> 09315-T07  <b>Existing Permit Issue Date:</b> 05/14/2021  <b>Existing Permit Expiration Date:</b> 02/28/2022</p>

**Total Actual emissions in TONS/YEAR:**

CY	SO2	NOX	VOC	CO	PM10	Total HAP	Largest HAP
2021	0.03	3.95	211.49	3.1	3.4	0.0651	0.0651 [Hexane, n-]
2020	0.0200	3.64	211.33	3.07	3.51	0.0656	0.0656 [Hexane, n-]
2019	0.0200	3.55	202.39	2.95	3.61	0.0635	0.0635 [Hexane, n-]
2018	0.0200	3.49	166.34	2.93	3.31	0.0629	0.0629 [Hexane, n-]
2017	0.0200	3.34	159.38	2.81	3.49	0.0601	0.0601 [Hexane, n-]

<p><b>Review Engineer:</b> Jacob Larson</p> <p><b>Review Engineer's Signature:</b> _____    <b>Date:</b> _____</p>	<p style="text-align: center;"><b>Comments / Recommendations:</b></p> <p><b>Issue:</b> 09315/T08  <b>Permit Issue Date:</b> <span style="background-color: yellow;">Date needed</span>  <b>Permit Expiration Date:</b> <span style="background-color: yellow;">Date needed</span></p>
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## 1. Purpose of Application

Bimbo Bakeries USA, Inc. (BBU) a commercial bakery located in Valdese, NC, submitted an application for renewal of permit No. 09315T07 on August 16, 2021 and was considered complete on this date. The application was received at least six months prior to the expiration date of February 28, 2022. Therefore, the existing permit shall not expire until the renewal permit has been issued or denied. All terms and conditions of existing permit shall remain in effect until renewal permit has been issued or denied.

## 2. Facility Description

BBU is a bakery which produces a variety of baked goods (bread, buns). Bakery operations include mixing, dough preparation and conveying, proofing, baking ovens (3), packaging equipment, two boilers, emergency generator and fuel storage tank. This facility is required to have a Title V permit because the potential emissions VOCs are greater than 100 tons per year (tpy).

## 3. History/Background/Application Chronology

### History/Background

March 15, 2017	TV permit renewal with a modification was issued. The modification was to request the removal of one previously permitted source, the reintroduction of four insignificant sources that were inadvertently left out of the previous permit, and the addition of a PSD avoidance condition for Volatile Organic Compounds. Air Permit No. 09315T05 was issued on this date with an expiration date of February 28, 2022.
March 11, 2019	Air Permit No. 09315T06 was issued for a minor modification of Title V permit No. 09315T05 to replace the existing, direct natural gas-fired roll oven (ID No. ES-4) with a new, direct natural gas-fired bun oven (ID No. ES-6)
May 14, 2021	Air Permit No. 0915T07 was issued for a minor modification of the existing Title V permit No. 09315T06 to add a new diesel-fired emergency generator (4,060 horsepower, ID No. EGEN-01), and an associated new diesel storage tank (9,250 gallons, ID No.IDT-01).

### Application Chronology

August 16, 2021	DEQ received permit application 1200141.21B for Title V renewal.
March 4, 2022	Notice of Deficiency of Air Permit No. 09315T07, Section 2.1(A)(4)(e) and Section 2.1(B)(2)(l) requiring permittee to submit semi-annual compliance summery reporting.
March 7, 2022	Permittee response to Notice of Deficiency including semi-annual summary report demonstrating compliance with Air Permit No. 09315T07.
February 28, 2023	Comments received from Booker Pullen, Permitting Supervisor.
March 01, 2023	Draft permit and review forwarded to the Asheville Regional Office for comments. No comments were received March 02, 2023.
March 01, 2023	Draft permit forwarded to the applicant for comments. No comments were received March 02, 2023.
March 01, 2023	Draft permit and review forwarded to the Stationary Compliance Branch for comments. No comments were received March 07, 2023.

XXXXX xx, 2023 Draft permit and permit review forwarded for a 30-day public notice and a 45-day EPA review.

XXXXX xx, 2023 Public comment period ends. \_\_\_\_\_ comments received.

XXXXX xx, 2023 EPA comment period ends. \_\_\_\_\_ comments received.

Permit issued.

#### 4. Permit Modifications/Changes and TVEE Discussion

##### Summary of Changes to Permit

The following changes were made to Air Permit No. 09315T07:\*

Page No.	Section	Description of Changes
--	Cover page and throughout permit	<ul style="list-style-type: none"> <li>Updated all dates and permit revision numbers.</li> </ul>
Pg 3 of the cover letter	Cover page	<ul style="list-style-type: none"> <li>Added "Notice Regarding the Right to Contest a Division Of Air Quality Permit Decision" page</li> </ul>
Pg 4 of the cover letter	Summary of Changes to Permit	<ul style="list-style-type: none"> <li>Added summary of changes made to Permit No. 09315T07 according to the most recent requirements of the renewal Title V permit</li> </ul>
Page 2 of Permit	Table of Contents	<ul style="list-style-type: none"> <li>Added Section 3.0 as "Insignificant Activities List"</li> <li>Added Section 4.0 as "General Permit Conditions"</li> </ul>
Page 3 of the Permit	List of Acronyms	<ul style="list-style-type: none"> <li>Added "List of Acronyms"</li> </ul>
Page 4 of the Permit	Permitted Emissions Table	<ul style="list-style-type: none"> <li>Removed the * and footnote at the bottom of the table.</li> </ul>
Page 10 of the Permit	Section 3	<ul style="list-style-type: none"> <li>Added Insignificant Activities as Section 3 of the Title V Permit</li> </ul>
Page 11-19	Section 4	<ul style="list-style-type: none"> <li>Added General Conditions as Section 4 of the Title V Permit</li> </ul>

\* This list is not intended to be a detailed record of every change made to the permit but a summary of those changes.

#### 5. Regulatory Review

The facility is subject to the following air quality regulations in addition to the General Conditions:

- 15A NCAC 02D .0515 "Particulates from Miscellaneous Industrial Processes"
- 15A NCAC 02D .0516 "Sulfur Dioxide Emissions from Combustion Sources"
- 15A NCAC 02D .0521 "Control of Visible Emissions"
- 15A NCAC 02D .0524 "New Source Performance Standards, 40 CFR 60 Subpart III"
- 15A NCAC 02Q .0317 of 02D .0530 "Avoidance Condition for Prevention of Significant Deterioration"
- 15A NCAC 02D .1111 "Maximum Achievable Control Technology"

##### A. One direct natural gas-fired batter whip oven (ID No. ES-1) One direct natural gas-fired variety bread oven (ID No. ES-2) One direct natural gas-fired bun oven (ID No. ES-6)

- 15A NCAC 02D .0515: PARTICULATES FROM MISCELLANEOUS INDUSTRIAL PROCESSES  
This rule applies to facilities in which particulate matter from any stack, vent, or outlet is emitted from any industrial process for which no other emission control standards are applicable. Emissions of particulate matter from ovens (ID Nos. ES-1, ES-2, and ES-6) shall not exceed an allowable emission rate as calculated by the following equation:

For process rates up to 30 tons per hour,

$$E = 4.10 \times P^{0.67}$$

Where: E = allowable emission rate in pounds per hour

P = process weight in tons per hour

Liquid and gaseous fuels and combustion air are not considered as part of the process weight. Continued compliance is expected.

Example calculation for oven ES-6:

The process weight rate for ES-6 (replacement oven) is 7,400 lbs/hr (3.70 tons/hr). Hence, the allowable emission rate is estimated to be 9.85 lbs/hr.

For process rates up to 30 tons per hour,

$$E = 4.10 \times P^{0.67}$$

Where: E = allowable emission rate in pounds per hour

P = 7,400 pounds per hour (3.70 tons/hr)

$$E = 4.10 \times (3.70)^{0.67}$$

E<sub>allowable</sub> = 9.85 pounds per hour

The potential PM emission rate for oven ES-6 is expected to be negligible. No monitoring, recordkeeping or reporting will be required for this regulation. Compliance is expected.

- 15A NCAC 02D .0516: SULFUR DIOXIDE EMISSIONS FROM COMBUSTION SOURCES

Emission of sulfur dioxide from any source of combustion that is discharged from any vent, stack, or chimney shall not exceed 2.3 pounds of sulfur dioxide per million BTU input. Sulfur dioxide formed by the combustion of sulfur in fuels, wastes, ores, and other substances shall be included when determining compliance with this standard.

Sulfur dioxide formed or reduced as a result of treating flue gases with sulfur trioxide or other materials shall also be accounted for when determining compliance with this standard.

A source subject to an emission standard for sulfur dioxide in Rules .0524, .0527, .1110, .1111, .1205, .1206, .1210, or .1211 of 15A NCAC shall meet the standard in that rule, instead of 2.3 lb/million Btu emission standard under 2D .0516.

Natural gas has negligible sulfur content, as per AP-42 (Section 1.4 Natural Gas Combustion, Table 1-4.2, July 1998). The emission factor from this table is 0.6 lbs of SO<sub>2</sub>/million ft<sup>3</sup>.

$$\frac{0.6 \text{ lbs SO}_2}{1 \times 10^6 \text{ ft}^3 \text{ nat gas}} \times \frac{1 \text{ ft}^3 \text{ nat gas}}{1020 \text{ Btu}} \times \frac{1,000,000 \text{ Btu}}{\text{mm Btu}} = \frac{5.88 \times 10^{-4} \text{ lbs SO}_2}{\text{mmBtu}} \text{ or rounded to } \frac{0.0006 \text{ lbs SO}_2}{\text{mmBtu}}$$

Sulfur dioxide emissions are estimated to be 0.0006 lb/million Btu. Hence, compliance with the SO<sub>2</sub> standard of 02D .0516 is expected.

- 15A NCAC 02Q .0317: AVOIDANCE CONDITIONS for 15A NCAC 02D .0530: PREVENTION OF SIGNIFICANT DETERIORATION

This facility has taken a PSD Avoidance condition for VOC emissions from the facility to remain below 250 tons per year. The Permittee is required to calculate VOC emissions from the ovens due to the fermentation of yeast in the bread. This calculation will continue to be done on a monthly basis, at the end of the month, by multiplying the total amount of each type of VOC-containing material consumed during the month by the VOC content of the material. Calculations and the total amount of VOC emissions shall be recorded monthly in a logbook. The Permittee is also required to report monthly VOC emissions of each oven for the previous 17 months. The Emissions must be calculated for each of the 12-month periods over the previous 17 months.

It should be noted that negligible VOC emissions are expected due to fuel (natural gas) burning in new and existing ovens. VOC emissions due to natural gas combustion are estimated to be 0.12 tons/yr (**ES-6**), 0.16 tons/yr (**ES-1**), and 0.17 tons/yr (**ES-2**). In addition, negligible VOC emissions are expected from the two insignificant boilers **IS-1** (0.25 ton/yr) and **IS-2** (0.19 ton/yr). The total VOC emissions from all the above combustion equipment equal 0.89 tons/yr (or approximately 148 lbs/month).

There are additional combustion sources in the form of four natural gas-fired air make-up units IS-9) (each 2.63 million Btu/hr) for human comfort heat only<sup>1</sup>. However, these units are categorically exempt under 02Q .0503(7)(d), even though they are listed as insignificant activities per 02Q .0503(8). These sources (air make-up units, used for human comfort heat only) are not required to be permitted, their emissions will not be monitored under the above PSD avoidance limit. This renewal of the Title V permit will not change these requirements.

**B. One diesel-fired emergency generator (ID No. EGEN-01)**

A 4,060 Hp diesel emergency generator (**EGEN-01**) was added to the permit with the issuance of permit 09315T07 on 05/14/21. This generator became operational in October 2021. It was not in operation during the inspection conducted by Patrick Ballard on 05/12/2022. There was 28.6 hours on the meter. The emergency generator is subject to the requirements of 02D .0521, .0524 (NSPS IIII), and 02D .1111 (GACT ZZZZ). The 9,250-gallon diesel storage tank (**IDT-01**) will be listed as an insignificant activity pursuant to 15A NCAC 02Q .0503(8) since potential emissions will be less than 5 tons per year for each criteria pollutant and less than 1,000 pounds per year of each hazardous air pollutant.

- 15A NCAC 02D .0516 Sulfur Dioxide Emissions from Combustion Sources  
Not applicable. The emergency generator is NOT subject to 02D .0516 since the source is subject to an emission standard for sulfur dioxide in 02D .0524 (NSPS IIII) and shall meet that standard (< 15 ppm of sulfur in the diesel fuel) instead.
- 15A NCAC 02D .0521 Control of Visible Emissions  
EGNO-01 is subject to this regulation because it was manufactured after July 1, 1971. Visible emissions from the engine are limited to a six-minute average opacity of 20%. Visible emissions from a properly maintained and operated engine, firing ultra-low sulfur diesel fuel, should meet the requirements of this standard. No visible emissions are expected; therefore, no monitoring, recordkeeping or reporting is required.
- 15A NCAC 02D .0524 New Source Performance Standards (NSPS)  
The diesel-fired emergency generator (compression ignition engine) is subject to NSPS Subpart IIII. See details in Section 6. below.
- 15A NCAC 02D .1111 Maximum Achievable Control Technology (MACT)  
The emergency generator is subject to GACT Subpart ZZZZ since the facility is minor source of HAPs and shall comply by meeting the requirements of NSPS IIII. See details in Section 6. below.
- 15A NCAC 02Q .0711 Emission Rates Requiring a Permit  
The NC air toxics program requirements do NOT apply to the emergency generator since the potential to emit for facility-wide toxic air pollutant (TAP) emissions including the emergency generator are less than the applicable toxics air pollutant emission rates (TPERs) for all pollutants expected to be emitted per the application. Also, since the emergency generator is subject to 40 CFR 63 Subpart ZZZZ, the emergency generator TAP emissions are exempt pursuant to 15A NCAC 02Q .0702(a)(27)(B) and do not pose an unacceptable health risk since the TAP emissions are less than the TPERs.

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<sup>1</sup> Confirmed by the applicant and noted in 05/12/2022 inspection report.

## **6. NSPS, NESHAPS/MACT, PSD, 112(r), CAM**

### NSPS

NSPS Subpart IIII applies to the new diesel-fired emergency generator (compression ignition engine). The facility will comply with NSPS Subpart IIII by meeting the emission standards 40 CFR 60.4202 for all pollutants, for the same model year and maximum engine power for this engine. [40 CFR 60.4205(b)]

The Permittee shall use diesel fuel in the engine that meets the requirements of 40 CFR 1090.305 including:

- i. a maximum sulfur content of 15 ppm; and
- ii. a minimum cetane index of 40 or a maximum aromatic content of 35 volume percent.

[40 CFR 60.4207(b)]

### NESHAP

GACT Subpart ZZZZ applies to the new diesel-fired emergency generator since the facility is minor for HAPs. Compliance with GACT Subpart ZZZZ is achieved by complying with NSPS Subpart IIII above.

### PSD

Burke County is in attainment or unclassifiable/attainment for all promulgated National Ambient Air Quality Standards (NAAQS), in accordance with §81.334. The PSD program applies to major stationary sources and major modifications in this County. As discussed in Section 5. above, the facility will remain a minor source under PSD and this renewal application does not change the status of this facility.

### Compliance Assurance Monitoring (CAM)

The sources at this facility are exempt from CAM in accordance with 15A NCAC 02D .0614(b)(1)(E) because the permit contains an emissions cap (250 PSD Avoidance limit) that is approved pursuant to the rules of Subchapters 02D and 02Q of this Chapter and incorporated in a permit issued pursuant to 15A NCAC 02Q .0500.

### 112(r)

The Permittee does not store any regulated compound in quantities exceeding the threshold levels per the application.

## **7. Facility Wide Air Toxics**

The NC air toxics program do not apply to Bimbo Bakeries baking operations using natural gas-fired ovens (**ES-1, ES-2, and ES-6**) and two insignificant boilers (**IS-1 and IS-2**). As per the application, the potential to emit for facility wide emissions are less than the applicable toxics air pollution emission rates (TPER's) for all pollutants expected to be emitted (that is, acetaldehyde, acrolein, ammonia, benzene, benzo(a)pyrene, formaldehyde, n-hexane, and toluene).

The NC air toxics program requirements do NOT apply to the emergency generator since the potential to emit for facility-wide toxic air pollutant (TAP) emissions including the emergency generator are less than the applicable toxics air pollutant emission rates (TPERs) for all pollutants expected to be emitted per the application. Also, since the emergency generator is subject to 40 CFR 63 Subpart ZZZZ, the emergency generator TAP emissions are exempt pursuant to 15A NCAC 02Q .0702(a)(27)(B) and do not pose an unacceptable health risk since the TAP emissions are less than the TPERs.

## **8. Facility Emissions Review**

The facility-wide potential emissions do not change under this TV permit renewal. Actual emissions for criteria pollutants and HAPs for the years 2017 through 2021 are provided in the header of this permit review.

## **9. Compliance Status**

The facility was issued a NOD on March 4, 2022 for late submittal of a semi-annual report. There have been no other compliance issues at this facility during the past five years. Patrick Ballard of the ARO inspected this facility on May 12, 2022. At that time, the facility appeared to be operating in compliance with the current permit.

## **10. Public Notice/EPA and Affected State(s) Review**

A notice of the DRAFT Title V Permit shall be made pursuant to 15A NCAC 02Q .0521. The notice will provide for a 30-day public comment period, with an opportunity for a public hearing. Consistent with 15A NCAC 02Q .0525, the EPA will have a concurrent 45-day review period. Copies of the public notice shall be sent to persons on the Title V mailing list and EPA. Pursuant to 15A NCAC 02Q .0522, a copy of each permit application, each proposed permit and each final permit shall be provided to EPA. Also pursuant to 02Q .0522, a notice of the DRAFT Title V Permit shall be provided to each affected State at or before the time notice provided to the public under 02Q .0521 above. No affected states or local agencies are within 50 miles of this facility.

## **11. Other Regulatory Considerations**

- A P.E. seal is NOT required for this renewal application.
- A zoning consistency determination is NOT required for this renewal application.
- A permit fee is NOT required for this renewal application.

## **12. Recommendations**

The permit renewal application for Bimbo Bakeries USA, Inc. located in Valdese, Burke County, North Carolina has been reviewed by DAQ to determine compliance with all procedures and requirements. DAQ has determined this facility is complying or will achieve compliance, as specified in the permit, with all requirements that are applicable to the affected sources. DAQ recommends the issuance of Air Quality Permit No. 09315T08.