NORTH CAROLINA DIVISION OF AIR QUALITY

Application Review

Issue Date:

Region: Washington Regional Office
County: Wayne
NC Facility ID: 9600235
Inspector's Name: Yongcheng Chen
Date of Last Inspection: 05/18/2023
Compliance Code: 3 / Compliance - inspection

Facility Data

Applicant (Facility's Name): Franklin Baking Company - Goldsboro

Facility Address:
Franklin Baking Company - Goldsboro
500 West Grantham Street
Goldsboro, NC 27530

SIC: 2051 / Bread Cake And Related Product
NAICS: 311812 / Commercial Bakeries

Facility Classification: Before: Title V **After:** Title V
Fee Classification: Before: Title V **After:** Title V

Permit Applicability (this application only)

SIP: N/A
NSPS: N/A
NESHAP: N/A
PSD: N/A
PSD Avoidance: N/A
NC Toxics: N/A
112(r): N/A
Other: N/A

Contact Data

Facility Contact	Authorized Contact	Technical Contact
Darrell Long Env., Safety and Sustainability Mgr. (919) 735-0344 500 West Grantham Street Goldsboro, NC 27530	Jason Geddings Plant Manager (919) 735-0344 500 West Grantham Street Goldsboro, NC 27530	Darrell Long Env., Safety and Sustainability Mgr. (919) 735-0344 500 West Grantham Street Goldsboro, NC 27530

Application Data

Application Number: 9600235.24A and .20A
Date Received: 02/26/2024 and 10/28/2020
Application Type: Modification
Application Schedule: TV-Sign-501(b)(2) Part II

Existing Permit Data
Existing Permit Number: 07844/T12
Existing Permit Issue Date: 02/24/2023
Existing Permit Expiration Date: 10/31/2024

Total Actual emissions in TONS/YEAR:

CY	SO2	NOX	VOC	CO	PM10	Total HAP	Largest HAP
2022	0.0300	3.55	228.28	2.98	0.7200	0.0667	0.0638 [Hexane, n-]
2021	0.0200	3.61	179.62	3.03	0.4900	0.0679	0.0650 [Hexane, n-]
2020	0.0200	3.69	117.94	3.10	0.4900	0.0695	0.0665 [Hexane, n-]
2019	0.0200	4.19	80.36	3.52	0.3200	0.0788	0.0754 [Hexane, n-]
2018	0.0200	4.41	80.53	3.70	0.3300	0.0829	0.0793 [Hexane, n-]

Review Engineer: Suraiya Akter

Review Engineer's Signature: **Date:**

Comments / Recommendations:
Issue 07844/T13
Permit Issue Date:
Permit Expiration Date:

1. Purpose of Application

Franklin Baking Company, LLC (FBC) currently holds Title V Permit No. 07844T12 with an expiration date of October 31, 2024, for a commercial Bakery located at 500 West Grantham Street, Goldsboro, North Carolina. This permit revision consolidates two separate permit applications (Application Nos. 9600235.24A and 9600235.20A). Each is summarized below:

Application ID No. 9600235.24A:
This permit action is for Part II of a two-step process allowed under 15A NCAC 02Q .0501(b)(2). The Rule states:

(c) With the exception in Paragraph (d) of this Rule, the owner or operator of an existing facility, new facility, or modification of an existing facility (except for minor modifications under Rule .0515 of this Section), including significant modifications that would not contravene or conflict with a condition in the existing permit, subject to the requirements of this Section shall not begin construction without first obtaining:

(1) a construction and operation permit following the procedures under this Section (except for Rule .0504), or
(2) a construction and operation permit following the procedures under Rule .0504 and filing a complete application within 12 months after commencing operation to modify the construction and operation permit to meet the requirements of this Section.

The Permittee submitted an application for a significant 501(b)(2) Part I permit (9600235.22A) on October 7, 2022 and was deemed complete on November 18, 2022. The Part I permit was issued on February 24, 2023 and included the following approved permit modifications.

- Increased facility-wide VOC emissions limit due to the conversion to the change in dough process. FBC modified to a Title V PSD major source based on the potential facility-wide VOC emission rate of 399 tons per year.

The FBC started their modified production process from a sponge and dough process to straight in June 2021. On February 26, 2024, DAQ received this Part II application (9600235.24A) from Franklin Baking Company, LLC (FBC) to complete the process to include the above-listed changes as required in condition 2.2 A.1.a of Permit 07844T12.

The technical review for the Part I application (9600235.22A) is attached to this document.

Application ID No. 9600235.20A:
On October 28, 2020, a Section 502(b)(10) request letter was received by DAQ to replace the gas-fired boiler ES-B-1 with an exact same size boiler. An acknowledgement notification was forwarded to FBC from DAQ on October 29, 2020. After discussing with Darrell Long from FBC (email) and Betsy Huddleston from Washington Regional Office, it was clear that the replaced Boiler was exactly same size of the pervious one (4.2 mm Btu/hr). The new boiler was placed on January 12, 2021. Later, FBC submitted supporting documents with their application 9600235.24A which provides the confirmation that the emission did not exceed the permitted limits. Therefore, the replaced Boiler will be regulated by the existing requirements of permit T12.

2. Facility Description

FBC is a commercial bakery that produces variety of fresh, frozen, and bread-type rolls, cakes, pies, and other perishable bakery products that are shipped to distribution sites across the eastern United States. FBC employs approximately 350 persons (onsite average).

3. Application Chronology

February 26, 2024	Part II application received.
March 1, 2024	Sent acknowledgment letter. Application complete.
May 10, 2024	Draft to applicant and regional office
May 14, 2024	Received feedback from Betsy Huddleston with minor revisions

May 22, 2024	Received feedback from Applicant with no comments
May 29, 2024	Draft to public notice and EPA
June 27, 2024	Public comment period ends
July 13, 2024	EPA Comment period ends
xxxx xx, 2024	Permit issued

4. Permit Modifications/Changes

The table below outlines the proposed changes to the current permit (07844T12):*

Page No.	Section	Description of Changes
--	Cover page and Throughout	Updated all dates and permit revision numbers.
21	Section 4	General conditions and limitations is updated as of version 7.0, 08/21/2023

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

5. Other Requirements

- No application fee was required for this application.
- The appropriate number of application copies were received on 02/26/24.
- The application was signed by Mr. Jason Thiel Geddings, Plant Manager, on 01/21/24 as the Responsible Official.
- Wayne County has triggered increment tracking under PSD for PM_{10}, $PM_{2.5}$, SO_2, and NOx. However, this permit modification does not consume or expand increments for any pollutants.
- The associated dates are listed in the Application Chronology section above.

6. Public Notice

Public notice and EPA review is required for the completion of this two-step significant process. 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 comment period, with an opportunity for a public hearing. 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 15A NCAC 02Q .0522, a notice of the DRAFT Title V Permit shall be provided to each affected State at or before the time notice is provided to the public under 15A NCAC 02Q .0521, above.

7. Facility Compliance Status

This facility was last inspected on May 18, 2023 by Yongcheng Chen of the Washington Regional Office. According to Cheng's report, "Based on visual observations and records review, the facility appeared to operate in compliance with all applicable air quality regulations and permit conditions at the time of inspection."

8. Conclusions, Comments and Recommendations

The issuance of Air Quality Permit No. 07844T13 to Franklin Baking Company - Goldsboro is recommended.

NORTH CAROLINA DIVISION OF AIR QUALITY

Application Review

Issue Date: February 24, 2023

Region: Washington Regional Office
County: Wayne
NC Facility ID: 9600235
Inspector's Name: Yongcheng Chen
Date of Last Inspection: 09/23/2022
Compliance Code: 3 / Compliance - inspection

Facility Data

Applicant (Facility's Name): Franklin Baking Company - Goldsboro

Facility Address:
Franklin Baking Company - Goldsboro
500 West Grantham Street
Goldsboro, NC 27530

SIC: 2051 / Bread Cake And Related Product
NAICS: 311812 / Commercial Bakeries

Facility Classification: Before: Title V **After:** Title V
Fee Classification: Before: Title V **After:** Title V

Permit Applicability (this application only)

SIP: 15A NCAC 02D .1111, 02Q .0317 for 02D .0530
NSPS: N/A
NESHAP/MACT: Subpart DDDDD
PSD: N/A
PSD Avoidance: Yes, VOCs
NC Toxics: N/A
112(r): N/A
Other: N/A

Contact Data

Facility Contact	Authorized Contact	Technical Contact
Darrell Long Env., Safety and Sustainability Mgr. (919) 735-0344 500 West Grantham Street Goldsboro, NC 27530	Paul Frankum General Manager (919) 735-0344 500 West Grantham Goldsboro, NC 27530	Darrell Long Env., Safety and Sustainability Mgr. (919) 735-0344 500 West Grantham Street Goldsboro, NC 27530

Application Data

Application Number: 9600235.22A
Date Received: 10/07/2022
Application Type: Modification
Application Schedule: TV-Sign-501(b)(2) Part I

Existing Permit Data
Existing Permit Number: 07844/T11
Existing Permit Issue Date: 11/18/2019
Existing Permit Expiration Date: 10/31/2024

Total Actual emissions in TONS/YEAR:

CY	SO2	NOX	VOC	CO	PM10	Total HAP	Largest HAP
2021	0.0200	3.61	179.62	3.03	0.4900	0.0679	0.0650 [Hexane, n-]
2020	0.0200	3.69	117.94	3.10	0.4900	0.0695	0.0665 [Hexane, n-]
2019	0.0200	4.19	80.36	3.52	0.3200	0.0788	0.0754 [Hexane, n-]
2018	0.0200	4.41	80.53	3.70	0.3300	0.0829	0.0793 [Hexane, n-]
2017	0.0200	4.38	87.61	3.67	0.3300	0.0823	0.0788 [Hexane, n-]

Review Engineer: Alice Wessner Review Engineer's Signature: Alice M. Wessner Date: 2/24/2023	**Comments / Recommendations:** **Issue** 07844/T12 **Permit Issue Date:** February 24, 2023 **Permit Expiration Date:** October 31, 2024

1. Purpose of Application

Franklin Baking Company – Goldsboro (FBC) currently holds Title V Permit No. 07844T11 with an expiration date of October 31, 2024, for a commercial bakery that produces a variety of fresh, frozen breads, and bread-type rolls, cakes, pies, and other perishable bakery products that are shipped to distribution sites across the Eastern United States. The bakery is in Wayne County, Goldsboro, North Carolina. Air Permit Application No. 9600235.22A for a significant modification under 15A NCAC 02Q .0501(b)(2) was deemed complete on November 18, 2022. FBC intends to modify their production process from a sponge and dough process to a straight dough process which will result in a modification of their permit because the change in process could cause the VOC PTE to exceed the PSD threshold of 250 tons per year which is in FBC's current permit as a facility-wide limit.

It was agreed through a meeting with FBC and DAQ on May 26, 2022, FBC would prepare a permit modification request to increase the facility wide permitted VOC emission limits at the facility. The process to be used would be for the applicant to select a consecutive 24-month baseline actual emissions period that was five years immediately preceding submittal of a complete application submittal for which the emissions units actually emitted the pollutant. The average baseline emission rate would be added to the significant emissions rate (250 tpy) for a source that was minor for PSD and that rate would be placed into the Title V permit as a PSD avoidance limit. Upon issuance of the permit modification, FBC will then be a major PSD source regarding VOCs; however, DAQ is not requiring a PSD New Source Review for this modification.

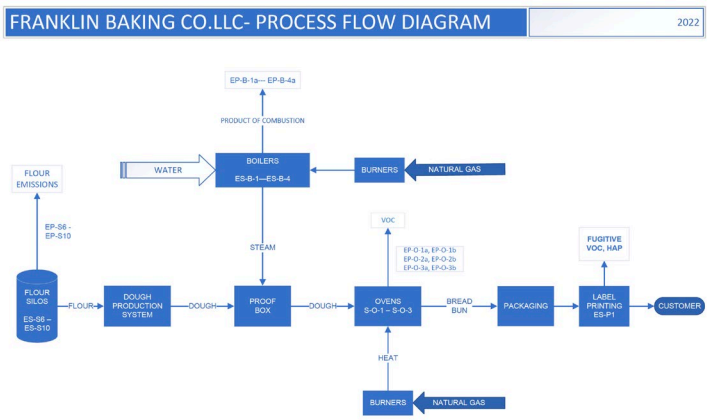
Additionally, the increased VOC emission limit will result in an increase in the PTE for acetaldehyde, a HAP, to greater than 10 tons per year, the regulatory threshold for individual HAP emissions. This increase is due solely to the change in the dough process. There are no physical changes to the facility's operations. These emissions are specific to the oven baking emissions and the remaining sources are unchanged.

2. Facility Description

As currently configured, FBC produces loaf bread and hotdog & hamburger buns and is divided into two different plants. The bread plant produces white sandwich bread and loaf breads, Sunbeam, Nature's Own, etc. The roll plant produces hotdog and hamburger buns, standard and franchise specific and for retail sales. The plant operates 3 shifts, 7 days a week and 365 days per year. It is the goal to schedule eight hours per week for maintenance on each line. The site has approximately 350 employees and produces about 1million loafs per day. When the bakery is running at maximum production, FBC is able to produce 180 loafs per minute and 800 buns per minute, with both plants running simultaneously and independently of each other.

The facility has four boilers, two in each building. In each pair of boilers, only one can operate at a time. The only purpose of the boilers is to generate steam for the "proof boxes." These proof boxes preheat the yeast, making the dough rise before regular oven heat is applied for the baking process. The facility has three ovens, two at the hotdog & hamburger bun plant, and one at the loaf bread plant. The facility has five storage silos for flour. The flour comes off the railcars or truck, two by the hotdog & hamburger plant and three at the loaf bread plant, but the inner workings are set up so the plants can receive flour from any silo. The label printing operation is at the loaf bread building. FBC uses soy-based ink jet printers which are permit exempt. The parts washers, an insignificant activity, are maintained by Safety Clean and use low VOC solvents.

Upon modification, the facility will be using the straight dough process and no longer the sponge and dough process.



3. Application Chronology

October 7, 2022	Received application for permit modification.
October 11, 2022	Sent acknowledgment letter indicating the application for permit modification was not complete. Three copies of the application were needed as well as the permit application fee of $7210.00.
October 13, 2022	A check in the amount of $7210.00 was sent to the Washington Regional Office (WARO) from FBC.
November 21, 2022	A complete application was received by the WARO and scanned into Laserfiche on November 21, 2022.
November 28, 2022	The hard copy of FBC's application for modification was received in the Central Office.
February 3, 2023	Draft permit and review forwarded the Booker Pullen, supervisor, for review.
February 6, 2023	Draft permit and review comments received from Booker Pullen, supervisor. Edits incorporated into permit and draft.
February 6, 2023	Draft permit and review sent to Samir Parekh of the Stationary Source Compliance Branch, Yongcheng Chen of the Washington Regional Office and Paul Frankum, General Manager, Franklin Baking Company.
February 8, 2023	Received comments via email from Samir Parekh of the Stationary Source Compliance Branch.
February 10, 2023	Received comments via email from Yongcheng Chen of the Washington Regional Office.
February 20, 2023	Received comments via email from Darrell Long, ESS Manager, FBC on behalf of Paul Frankum, General Manager, Franklin Baking Company.
February 20, 2023	incorporated comments and forwarded revised versions for final review.
February 24, 2023	Permit issued.

4. Permit Modifications/Changes and TVEE Discussion

The following table describes the changes to the current permit as part of this modification.

Page No(s).	Old Section	New Section	Description of Changes
Globally	Entire Permit	Entire Permit	• Updated DAQ letterhead, permit No., page numbers, etc. • Updated per recent Title V guidance/shell formatting as applicable to this modification
Cover Letter	N/A	N/A	• Updated cover letter with application number, permit numbers, dates, and latest shell changes for this modification • Added major modification language • Updated EPA Region 4 contact • Updated central files to laserfiche
--	Notice Regarding The Right to Contest a DAQ Permit Decision	Notice Regarding The Right to Contest a DAQ Permit Decision	• NO change associated with this modification
--	Summary of Changes to Permit	Summary of Changes to Permit	• Updated for this modification
Permit Cover	N/A	N/A	• Inserted new issuance and complete application date, application number and updated per current guidance • Added major modification language
--	Table of Contents	Table of Contents	• Updated per current shell guidance • Added list of Acronyms • Added Section 2.3
3	Section 1 – Table	Section 1 – Table	• Updated per current guidance • Added MACT DDDDD to affected sources (boilers)
4	2.1 A - Table	2.1 A - Table	• Added Hazardous air pollutants, limits/standards and applicable regulations for boilers
		2.1 A.4	• Added MACT language for affected sources (ID Nos. ES-B-1, ES-B-3, and ES-B-4)
		2.2 A.5	• Added MACT language for affected source (ID No. ES-B-2)
		2.3	• Added Section 2.3 Other Applicable Requirements 02Q .0504 Option for Obtaining Construction and Operation Permit requirement to submit an application within one year for new processes associated with modification
	Attachment to Permit	3	• Moved Insignificant Activities (previously Attachment to Permit) per current guidance to Section 3
12-20	3	4	• Moved to General Conditions to Section 4 per current guidance • Updated to most recent General Conditions (version 6.0, 01/07/2022)
21	List of Acronyms Attachment	Table of Contents	• Moved List of Acronyms to Table of Contents from Attachment to Permit

Changes were made to the Title V Equipment Editor (TVEE) as part of this modification.

5. Permit Modification

This permit application is being submitted to incorporate the changes to the permit that resulted in the VOC and HAP emissions increases due to the formulation change from the sponge and dough process to the straight dough process. This change is specific to the oven baking emissions. The remaining emission sources, including the oven natural gas combustion emissions and the boiler emissions, are unchanged.

Due to the conversion to the change in dough process, FBC has the potential to exceed the 250 tons per year limit on VOC emissions which will result in PSD applicability for this source. This Title V permit modification has been prepared to increase the facility-wide permitted VOC emission limit to the result of the baseline VOC emission rate determination plus 250 tons per rolling 12-month average. After the permit modification, FBC will be a Title V PSD major source based on the potential facility-wide VOC emission rate of 399 tons per year.

Acetaldehyde Emissions Determination - Dough Production

VOC Emission Rate from Dough Production Total	Acetaldehyde Emissions Summary				
(TPY)	(%) [1]	(TPY)	(lb/yr)	(lb/day)	(lb/hr)
393	3.5	13.75	27,495	75.33	3.14

[1] FBC has determined that the VOC effluent stream at their facility is composed of approximately 96.5% ethanol and 3.5% acetaldehyde. The acetaldehyde emissions are calculated by mass balance.

6. Regulatory Review

Regulations applicable to the facility after the change to baking process are discussed in this section.

- 15A NCAC 02D .0503, Particulates from Fuel Burning Indirect Heat Exchangers – Per 15A NCAC 02D .0503(a)(2), an indirect heat exchanger is defined as "equipment used for the alteration of the temperature of one fluid by the use of another fluid in which the two fluids are separated by an impervious surface such that there is no mixing of the two fluids." 15A NCAC 02D .0503(e) further states that "the sum of the maximum heart input of all fuel burning indirect heat exchangers at a plant site which are in the operation under construction or permitted pursuant to 15A NCAC 02Q, shall be considered as the total heat input for the purpose of determining the allowable emission limit for particulate matter for each fuel burning indirect heat exchanger." The four natural gas-fired boilers ((ES-B-1, B-2, B-3 or B-4) satisfy this definition of an indirect heat exchanger and have an aggregated maximum heat input rating of 17.8 mmBtu/hr.

  As prescribed in 15A NCAC 02D .0503(c), the allowable emissions of particulate matter shall be calculated by the equation $E= 1.090*Q^{-0.2594}$. "E" equals the allowable emission limit for particulate matter in lb/million Btu. "Q" equals the maximum heat input in million Btu/hour.

  $E = 1.090 * (17.8)^{-0.2594}$

  E = 0.52 pounds per million Btu

- 15A NCAC 02D .0515, Particulates from Miscellaneous Industrial Processes –This regulation is applicable to any industrial process not subject to any other particulate emission control standard, and it limits allowable particulate matter emissions according to the process rate. It applies to the three direct natural gas-fired ovens (ID Nos. ES-S-O-1, ES-S-O-2, and ES-S-O-3) and the five flour storage silos (ID Nos. ES-S6 through ES-S10). The sources subject to this regulation shall have actual emissions less than those calculated from the following equations from 15A NCAC 02D .0515(a):
  The average process rate for the ovens for calendar years 2020 and 2021 was 5.6 tons per hour.

  $E=4.10 \times P^{0.67}$, for process rates < 30 tons per hour

  Where: E = allowable emission rate in pounds per hour
  P = process weight in tons per hour

FBC is required to maintain production records such that the process rate in tons per hour can be derived. Currently there are no reporting and testing requirements for the ovens.

The average process rate for the flour silos for calendar years 2020 and 2021 was 3.9 tons per hour. FBC is required to maintain production records such that the process rate in tons per hour can be derived. The bag filters must be in operation at each storage silo. Compliance is demonstrated by performing the manufacturer recommended inspections and maintenance. The inspection and maintenance requirements include monthly visual inspection of the ductwork and material collection unit for leaks, and an annual internal inspection of the bag filter's structural integrity. Inspection records are maintained in a logbook and kept on site. Currently there are no reporting or testing requirements. Continued compliance is anticipated.

- 15A NCAC 02D .0516, Sulfur Dioxide from Combustion Sources – The four natural gas-fired boilers (ID Nos. ES-B-1, ES-B-2, ES-B-3, and ES-B-4) are subject to 02D .0516 and is limited to a sulfur dioxide emission rate of no more than 2.3 pounds sulfur dioxide (SO_2) per million Btu heat input. No monitoring, recordkeeping, or reporting (MRR) is required when firing natural gas in the boiler because of the low sulfur content of this fuel. Natural gas is inherently low enough in sulfur that compliance is anticipated.

  The three direct natural gas-fired ovens (ID Nos. ES-S-O-1, ES-S-O-2, and ES-S-O-3) are also subject to 02D .0516 and are limited to a SO_2 emission rate of no more than 2.3 pounds SO_2 per million Btu heat input. No MRR is required when natural gas is fired in these ovens because of the low sulfur content of this fuel. Natural gas is inherently low enough in sulfur that compliance is anticipated.

- 15A NCAC 02D .0521, Control of Visible Emissions – The four natural gas-fired boilers (ID Nos. ES-B-1, ES-B-2, ES-B-3, and ES-B-4), the three direct natural gas-fired ovens (ID Nos. ES-S-O-1, ES-S-O-2, and ES-S-O-3) and the four flour storage silos (100 ton capacity each) ID No. ES-S6 with associated bin vent bagfilter (ID No. CD-BF7), ID No. ES-S7 with associated bin vent bagfilter (ID No. CD-BF8), ID No. ES-S8 with associated bin vent bagfilter (ID No. CD-BF9), ID No. ES-S9 with associated bin vent bagfilter (ID No. CD-BF10), and one flour storage silo (75 ton capacity) (ID No. ES-S10) with associated bin vent bagfilter (ID No. CD-BF11) were manufactured after July 1, 1971 and must not have visible emissions of more than 20 percent opacity when averaged over a six-minute period, except as specified in 15A NCAC 02D .0521(d). The boilers and ovens do not have MRR requirements, however the Permittee shall observe the emission points at the silos for any visible emissions above normal once a month when each silo is being loaded. Continued compliance is anticipated.

- 15A NCAC 02Q .0317, Avoidance Conditions for 15A NCAC 02D .0530: Prevention of Significant Deterioration – FBC has accepted a limit of 250 tons of VOCs per consecutive 12-month period in the current Title V permit to avoid the applicability of this regulation. This will be further discussed below in Section 7.

- 15A NCAC 02D .1111, Maximum Achievable Control Technology (MACT) – Franklin Baking Company will be a major source for HAPs after the modification, due to the change in dough process which produces a PTE of acetaldehyde of 13.8 tons per year, however, the boilers are not a source of the HAP acetaldehyde. As a major source of HAP, FBC will be subject to Maximum Available Control Technology (MACT) DDDDD standards for the boilers. This will be further discussed below in Section 7.

- 15A NCAC 02Q .0504, Option of Obtaining Construction and Operation Permit – FBC will be required to submit a Title V permit application pursuant to 15A NCAC 02Q .0504 (aka the "Part II" permit application) within 12 months of first operating the new dough process. A new condition in Section 2.3 "Other Applicable Requirements" was added to the permit. The 12-month clock will start upon issuance of Permit No. 07844T12.

- 15A NCAC 02Q .0711, Emission Rates Requiring a Permit – As part of this modification, FBC proposes to change the dough process and will result in an increase in the PTE acetaldehyde. There will be no change to the TAP emission rates for the remaining identified compounds. See Section 8 below for more discussion of NC Air Toxics.

7. NSPS, NESHAPS/MACT, NSR/PSD, 112(r)

NSPS

This permit modification is not subject to any New Source Performance Standards (NSPS) and does not affect the NSPS status of the facility. As stated above in Section 2, it was agreed through a meeting with FBC and DAQ, to prepare a permit modification request to increase the facility wide permitted VOC emission limit to the result of the baseline VOC emission rate determination plus 250 tons per year. Upon issuance of the permit modification, FBC will be a major PSD source regarding VOCs; however, DAQ is not requiring a New Source Review for this modification.

NESHAPS/MACT

Franklin Baking Company will be a major source for HAPs after the modification, due to the change in dough process which produces a PTE of acetaldehyde of 13.8 tons per year, however, the boilers are not a source of the HAP acetaldehyde. As a major source of HAP, FBC will be subject to Maximum Available Control Technology (MACT) DDDDD standards for the boilers below:

- NESHAP for Major Sources: Industrial, Commercial, and Institutional Boilers and Process Heaters," 40 CFR 63 Subpart DDDDD.

The FBC has four natural gas-fired boilers in operation (ID Nos. ES-B-1, ES-B-2, ES-B-3, and ES-B-4). All are existing sources per 40 CFR 63.7490(d) and all are designed to burn gas 1 fuels. Boilers (ID Nos. ES-B-1, ES-B-3 and ES-B4) have a heat input capacity less than or equal to 5 million Btu per hour and boiler (ID No. ES-B-2) have a heat input capacity greater than 5 but less than 10 million Btu per hour; therefore, two sets of MACT conditions were added to the permit modification. Most of the MACT conditions are similar for both types of boilers except in the Work Practice Standards for the tune ups and the Recordkeeping Requirements conditions are different for the different sized boilers.

Section 2.1 A.4 for existing boilers with a heat input capacity less than or equal to 5 million Btu per hour

15A NCAC 2D .1111: MAXIMUM ACHIEVABLE CONTROL TECHNOLOGY

Applicability [40 CFR 63.7485, 63.7490(d), 63.7499(l)]

a. For these sources (**ID Nos. ES-B-1, ES-B-3 and ES-B4)** (existing sources(s) designed to burn gas 1 fuels with a heat input capacity less than or equal to 5 million Btu per hour), the Permittee shall comply with all applicable provisions, including the monitoring, recordkeeping, and reporting contained in Environmental Management Commission Standard 15A NCAC 02D .1111 "Maximum Achievable Control Technology" as promulgated in 40 CFR 63 Subpart DDDDD "National Emission Standards for Hazardous Air Pollutants for Major Sources: Industrial, Commercial, and Institutional Boilers and Process Heaters" including Subpart A "General Provisions."

Definitions and Nomenclature

b. For the purpose of this permit condition, the definitions and nomenclature contained in 40 CFR 63.7575 shall apply. [40 CFR 63.7575]

40 CFR Part 63 Subpart A General Provisions

c. The Permittee shall comply with the requirements of 40 CFR 63 Subpart A General Provisions according to the applicability of Subpart A to such sources as identified in Table 10 to 40 CFR 63 Subpart DDDDD. [40 CFR 63.7565]

Compliance Date

d. The Permittee shall complete the initial tune up and the one-time energy assessment as required in Sections 2.2 A.2.f and g no later than February 24, 2026[1]. [40 CFR 63. 7510(e), 63.7495(c)(2)]

Notifications

[1] The compliance date is the permit issuance date plus three years per 40 CFR 63.7495(c)(2)

e. The Permittee shall submit a Notification of Compliance Status. The notification shall be signed by a responsible official and submitted by April 25, 2026[2]. The notification shall contain the following:
   i. a description of the affected unit(s) including identification of which subcategories the unit is in, the design heat input capacity of the unit, and description of the fuel(s) burned; and
   ii. the following certifications of compliance:
      (A) "This facility completed the required initial tune-up for all of the boilers and process heaters covered by 40 CFR 63 Subpart DDDDD at the site according to the procedures in 40 CFR 63.7540(a)(10)(i) through (vi)" [i.e., Section 2.2 A.2.f.i and h.ii]; and
      (B) "This facility has had an energy assessment performed according to 40 CFR 63.7530(e) [i.e., Section 2.2 A.2.g] and is an accurate depiction of the facility at the time of the assessment, or that the maximum number of on-site technical hours specified in the definition of energy assessment applicable to the facility has been expended.' [40 CFR 63.7545(e), 63.7530(e)]

Work Practice Standards [15A NCAC 02Q .0508(b)]

f. The following work practice standards apply:
   i. The Permittee shall conduct a tune-up of the boiler every five years while burning the type of fuel (or fuels in case of units that routinely burn a mixture) that provided the majority of the heat input to the boiler or process heater over the 12 months prior to the tune-up as specified below:
      (A) As applicable, inspect the burner, and clean or replace any components of the burner as necessary (the Permittee may perform the burner inspection any time prior to the tune-up or delay the burner inspection until the next scheduled unit shutdown;
      (B) Inspect the flame pattern, as applicable, and adjust the burner as necessary to optimize the flame pattern. The adjustment should be consistent with the manufacturer's specifications, if available;
      (C) Inspect the system controlling the air-to-fuel ratio, as applicable, and ensure that it is correctly calibrated and functioning properly (the Permittee may delay the inspection until the next scheduled unit shutdown);
      (D) Optimize total emissions of carbon monoxide. This optimization should be consistent with the manufacturer's specifications, if available, and with any NO_X requirement to which the unit is subject; and
      (E) Measure the concentrations in the effluent stream of carbon monoxide in parts per million, by volume, and oxygen in volume percent, before and after the adjustments are made (measurements may be either on a dry or wet basis, as long as it is the same basis before and after the adjustments are made). Measurements may be taken using a portable CO analyzer.

      [40 CFR 63.7500(a), 63.7540(a)(10) and (12)]
   ii. Each five-year tune-up shall be conducted no more than 61 months after the previous tune-up. [40 CFR 63.7515(d)]
   iii. If the unit is not operating on the required date for a tune-up, the tune-up shall be conducted within 30 calendar days of startup. [40 CFR 63.7540(a)(13), 63.7515(g)]
   iv. At all times, the Permittee shall operate and maintain any affected source, including associated air pollution control equipment and monitoring equipment, in a manner consistent with safety and good air pollution control practices for minimizing emissions. Determination of whether such operation and maintenance procedures are being used will be based on information available to the Administrator that may include, but is not limited to, monitoring results, review of operation and maintenance procedures, review of operation and maintenance records, and inspection of the source. [40 CFR 63.7500(a)(3)]

   The Permittee shall be deemed in noncompliance with 15A NCAC 02D .1111 if these work practice requirements are not met.

Energy Assessment Requirements [15A NCAC 02Q .0508(b)]

g. The Permittee shall have a one-time energy assessment performed by a qualified energy assessor. The energy assessment must address the requirements in Table 3 to 40 CFR 63 Subpart DDDDD, with the extent of the evaluation for items (a) to (e) in Table 3 appropriate for the on-site technical hours listed in 40 CFR 63.7575. [40 CFR 63.7500(a)(1), Table 3 to 40 CFR 63 Subpart DDDDD]

Recordkeeping Requirements [15A NCAC 02Q .0508(f), 40 CFR 63.7555]

[2] The Notification of Compliance Status (NOCS) shall be submitted by the compliance date plus 60 days per. 40 CFR 63.7545(e)

h. The following recordkeeping requirements apply. The Permittee shall:
   i. keep a copy of each notification and report submitted to comply with this subpart, including all documentation supporting any Initial Notification or Notification of Compliance Status, or semiannual compliance report that has been submitted, according to the requirements in 40 CFR 63.10(b)(2)(xiv). [40 CFR 63.7555(a)(1)]
   ii. maintain on-site and submit, if requested by the Administrator, an annual report containing the information in paragraphs (A) through (C) below:
      (A) the concentrations of carbon monoxide in the effluent stream in parts per million by volume, and oxygen in volume percent, measured at high fire or typical operating load, before and after the tune-up of the source;
      (B) a description of any corrective actions taken as a part of the tune-up; and
      (C) the type and amount of fuel used over the 12 months prior to the tune-up, but only if the unit was physically and legally capable of using more than one type of fuel during that period. Units sharing a fuel meter may estimate the fuel use by each unit.
      [40 CFR 63.7540(a)(10)(vi)]
   iii. keep the associated records for Sections 2.2 A.2.f through g.
   iv. keep:
      (A) records in a form suitable and readily available for expeditious review;
      (B) each record for 5 years following the date of each occurrence, measurement, maintenance, corrective action, report, or record; and
      (C) each record on site for at least 2 years after the date of each occurrence, measurement, maintenance, corrective action, report, or record. The Permittee can keep the records offsite for the remaining 3 years.
      [40 CFR 63.7560, 63.10(b)(1)]

   The Permittee shall be deemed in noncompliance with 15A NCAC 02D .1111 if these recordkeeping requirements are not met.

Reporting Requirements [15A NCAC 02Q .0508(f)]

i. The following reporting requirements apply:
   i. The Permittee shall submit compliance reports to the DAQ on a five-year basis. The first report shall cover the period beginning on January 1, 2025 and ending on the December 31, 2025[3]. Subsequent five-year reports shall cover the periods from January 1 to December 31. The Permittee shall submit the compliance report postmarked on or before January 30 for the preceding reporting period. [40 CFR 63.7550(a) and (b)]
   ii. This report shall also be submitted electronically via the Compliance and Emissions Data Reporting Interface (CEDRI). (CEDRI can be accessed through the EPA's Central Data Exchange (CDX) (https://cdx.epa.gov/).) The Permittee shall use the appropriate electronic report in CEDRI for this subpart. Instead of using the electronic report in CEDRI for this subpart, the Permittee shall submit an alternate electronic file consistent with the XML schema listed on the CEDRI Web site (http://www.epa.gov/ttn/chief/cedri/index.html), once the XML schema is available. If the reporting form specific to this subpart is not available in CEDRI at the time that the report is due, the Permittee shall submit the report to the Administrator at the appropriate address listed in 40 CFR 63.13. The Permittee shall begin submitting reports via CEDRI no later than 90 days after the form becomes available in CEDRI. [40 CFR 63.7550(h)(3)]
   iii. The compliance report shall contain the following information:
      (A) company name and address;
      (B) process unit information, emissions limitations, and operating parameter limitations;
      (C) date of report and beginning and ending dates of the reporting period;
      (D) date of the most recent tune-up for each unit required according to Section 2.2 A.2.f. Include the date of the most recent burner inspection; and
      (E) statement by a responsible official with that official's name, title, and signature, certifying the truth, accuracy, and completeness of the content of the report.
      [40 CFR 63.7550(a) and (c), Table 9 to 40 CFR 63 Subpart DDDDD]

[3] The earliest December 31st less than one year from the compliance date. For example, if the compliance date is December 30, 2024, the report will cover the period December 30, 2024, through December 31, 2028.

The Permittee shall be deemed in noncompliance with 15A NCAC 02D .1111 if these reporting requirements are not met.

NESHAP for Hazardous Air Pollutants for Source Categories Generic Maximum Achievable Control Technology Standards, Subpart YY do not apply because FBC operations are not a listed course category as defined in 40 CFR 63.1100(a), Table 1, so the requirements of this standard are not applicable.

The ovens in operation at the FBC facility are direct-fired units and do not meet the definition of a process heater which is "an enclosed device using controlled flame, and the unit's primary purpose is to transfer heat indirectly to a process material (liquid, gas or solid) or to a heat transfer material (e.g. glycol or a mixture of glycol and water) for use in a process unit, instead of generating steam" as defined in 40 CFR 63.7575. The requirements of this standard are not applicable to the ovens.

112(r)

The facility is not subject to Section 112(r) of the Clean Air Act requirements because it does not store any of the regulated substances in quantities above the thresholds in 112(r). This permit modification does not affect the 112(r) status of the facility.

Prevention of Significant Deterioration (PSD)

Baseline actual emissions have been calculated as prescribed in 15A NCAC 02D .0530(b)(1)(A). The baseline actual emissions mean the average rate, in tons per year, at which the emissions unit actually emitted the pollutant during any consecutive 24-month period selected by the Permittee within the five-year period immediately preceding the date that a complete permit application is received by DAQ. VOC emission data submitted to DAQ in the annual emissions inventory was used for this determination by the applicant. The following equipment was included in the facility-wide VOC emission inventory:

- Four natural gas-fired boilers
- Three direct natural gas fired ovens
- Label printing operation
- VOC emitting insignificant activity (parts washer)

Review of the actual facility-wide emissions during the most recent ten-year period (The Director shall allow a different time period, not to exceed 10 years immediately preceding the date that a complete permit application is received by the Division, if the owner or operator demonstrates that it is more representative of normal source operation) indicates that the applicable 24-month period corresponds to calendar years 2020 and 2021, with an average value for this period of 149 tons per year.

Production Summary for Baseline Emissions Determination

Year	Dough Production Summary				VOC Emissions Summary			
	(TPY)	(lb/yr)	(lb/day)	(lb/hr)	(TPY)	(lb/yr)	(lb/day)	(lb/hr)
2012	48,916	97,832,184	268,033	11,168	89.28	178,553	489.2	20.38
2013	60,060	120,119,228	329,094	13,712	101.97	203,945	558.8	23.28
2014	58,748	117,496,186	321,907	13,413	100.59	201,171	551.2	22.96
2015	60,150	120,300,428	329,590	13,733	103.95	207,903	569.6	23.73
2016	58,553	117,105,917	320,838	13,368	91.93	183,858	503.7	20.99
2017	56,448	112,895,660	309,303	12,888	89.29	178,587	489.3	20.39
2018	52,868	105,735,836	289,687	12,070	80.64	161,274	441.8	18.41
2019	50,464	100,928,019	276,515	11,521	80.33	160,659	440.2	18.34
2020	49,787	99,574,272	272,806	11,367	117.94	235,873	646.2	26.93
2021	47,033	94,065,051	257,712	10,738	179.82	359,633	985.3	41.05

Baseline annual emission for the years 2020 – 2021 = (117.94 tpy + 179.82 tpy) ÷ 2 = 148.88 tpy (149 tpy)

Baseline average plus the significance level = 149 + 250 = 399 tpy NOx (Facility wide PSD avoidance condition).

8. Facility Wide Air Toxics

According to 15A NCAC 02Q .0701, no toxic air pollutant named in 15A NCAC 02D .1104 shall be emitted from any facility into the atmosphere at a rate that exceeds the applicable rate(s) in 15A NCAC 02Q .0711 without having received a permit to emit toxic air pollutants. FBC has identified the following toxic air pollutant (TAP) emissions at their facility:

- Acetaldehyde, Chemical Abstracts Service (CAS) No. 75-07-0
- Benzene, CAS No. 71-43-2
- Benzo(A)Pyrene, CAS No. 50-32-8
- Formaldehyde, CAS No. 50-00-0
- n-Hexane, CAS No. 110-54-3
- Toluene, CAS No. 108-88-3

The proposed modification will result in an increase of actual emissions for acetaldehyde; however, there will be no change to the other TAP emission rates for the remaining identified compounds above. A TAP emission rate analysis was completed by the applicant to determine if additional modeling is required for this modification. As prescribed in 15A NCAC 02Q .700, the results of the analysis were compared with the applicable toxic pollutant emission rates (TPER) levels contained in 15 NCAC 02Q .0711. The results of the TAP emission rate analysis from the applicant are below:

TPER Analysis (15A NCAC 02Q.0711)

		Potential Emission Rate				Regulatory Thresholds				Applicability Determination			
						Acute Systemic Toxicants	Acute Irritants	Chronic Toxicants	Carcinogens	Acute Systemic Toxicants Threshold Exceeded?	Acute Irritants Threshold Exceeded?	Chronic Toxicants Threshold Exceeded?	Carcinogens Threshold Exceeded?
CAS	Compound	(tons/yr)	(lbs/yr)	(lbs/day)	(lbs/hr)	(lb/hr)	(lb/hr)	(lb/day)	(lb/yr)	(Y/N)	(Y/N)	(Y/N)	(Y/N)
75-07-0	Acetaldehyde (Baking Process)	13.75	27,495	75.33	3.14		6.80			--	N	--	--
71-43-2	Benzene	3.53E-04	0.71	1.94E-03	8.06E-05				8.10	--	--	--	N
50-00-0	Formaldehyde	1.26E-02	25.23	6.91E-02	2.88E-03		0.04			--	N	--	--
110-54-3	Hexane	0.30	605.5	1.66	6.91E-02			23.00		--	--	N	--
108-88-3	Toluene	5.72E-04	1.14	3.13E-03	1.31E-04		14.40	98.00		--	N	N	--
50-32-8	Benzo(A)pyrene	2.02E-07	4.04E-04	1.11E-06	4.61E-08				2.20	--	--	--	N

No TPER levels exceeded the applicable threshold; so, therefore no modeling for the modification was required.

9. Facility Emissions Review

Facility-wide potential emissions and expected actual emissions after the modification are provided in the table below. Actual emissions from FBC 2017 – 2021 are reported in the header of this permit review.

Facility Wide Emissions Potential to Emit Summary

		Criteria Pollutants										
		ES-B-1	ES-B-2	ES-B-3	ES-B-4	ES-S-O-1	ES-S-O-2	ES-S-O-3	ES-P1	IA-PW	Dough Production [1]	Facility Totals [1]
Code	Compound	(tons/yr)	(tons/yr)	(tons/yr)	(tons/yr)	(tons/yr)	(tons/yr)	(tons/yr)	(tons/yr)	(tons/yr)	(tons/yr)	(tons/yr)
CO	Carbon Monoxide (CO)	1.51	2.20	1.51	1.19	1.95	4.28	1.48	--	--	--	14.13
NO_x	Nitrogen Oxide (NO_x)	1.80	2.62	1.80	1.42	2.32	5.10	1.76	--	--	--	16.82
PM	Particulate Matter (PM)	0.14	0.20	0.14	0.11	0.18	0.39	0.13	--	--	--	1.28
PM_{10}	Particulate Matter less than 10µ (PM_{10})	0.14	0.20	0.14	0.11	0.18	0.39	0.13	--	--	--	1.28
$PM_{2.5}$	Particulate Matter less than 2.5µ ($PM_{2.5}$)	0.14	0.20	0.14	0.11	0.18	0.39	0.13	--	--	--	1.28
SO_2	Sulfur Dioxide (SO_2)	0.01	0.02	0.01	0.01	0.01	0.03	0.01	--	--	--	0.10
VOC	Volatile Organic Compounds	0.10	0.14	0.10	0.08	0.13	0.28	0.10	0.62	4.54	392.79	399

10. Compliance Status

Mr. Yongcheng Chen of the WARO conducted the most recent inspection on September 23, 2022. Per the I-Beam database, no NOV's have been issued to the facility in the last five years. The most recent inspection report stated that the facility appeared to be operating in compliance with all applicable Federal and State air quality rules, regulations and permit conditions at the time of inspection.

11. Public Notice/EPA and Affected State(s) Review

No public notice is needed for a 15A NCAC 02Q .0501(b)(2), "Part 1," significant modification.

12. Other Regulatory Considerations

- Professional Engineering Seal
  Pursuant to 15A NCAC 2Q .0112 "Application Requiring A Professional Engineering Seal (PE Seal)," a PE Seal is required to seal technical portions of air permit applications for new sources and modifications of existing sources as defined in Rule .0103 of this Section that involve:

  (1) design;
  (2) determination of applicability and appropriateness;
  (3) or determination and interpretation of performance; of air pollution capture and control systems.

  A PE Seal was not required for this modification.

- A zoning consistency determination was not required per 15A NCAC 2Q .0304(b)(1) because this modification is not considered an expansion, rather only a process change (dough process).
- A permit fee of $7210 was received attached to a letter from FBC and received at the Washington Regional office on October 13, 2022.

13. Recommendations

The permit application for Franklin Baking Company – Goldsboro, Wayne County, NC has been reviewed by DAQ to determine compliance with all procedures and requirements. DAQ has determined that this facility is complying or will achieve compliance, as specified in the permit, with all requirements that are applicable to the affected sources. The DAQ recommends the issuance of Air Permit No. 07844T12.