NORTH CAROLINA DIVISION OF AIR QUALITY

Application Review

Issue Date: December 16, 2024

Region: Washington Regional Office
County: Wayne
NC Facility ID: 9600235
Inspector's Name: Connelly Huter
Date of Last Inspection: 05/30/2024
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 .0503, .0515, .0516, .0521, .1111, .1806, 15A NCAC 02Q .0317
NSPS: NA
NESHAP: MACT DDDDD
PSD: NA
PSD Avoidance: 15A NCAC 02Q .0317
NC Toxics: NA
112(r): NA
Other: NA

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: 9600235.24B
Date Received: 03/15/2024
Application Type: Renewal
Application Schedule: TV-Renewal

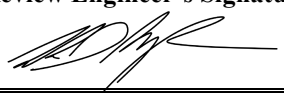
Existing Permit Data
Existing Permit Number: 07844/T13
Existing Permit Issue Date: 07/17/2024
Existing Permit Expiration Date: 10/31/2024

Total Actual emissions in TONS/YEAR:

CY	SO2	NOX	VOC	CO	PM10	Total HAP	Largest HAP
2023	0.0200	3.54	225.10	2.97	0.4300	0.0666	0.0637 [Hexane, n-]
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-]

Review Engineer: Luke Mayer

Review Engineer's Signature: **Date:** December 16, 2024



Comments / Recommendations:

Issue: 07844/T14
Permit Issue Date: December 16, 2024
Permit Expiration Date: November 30, 2029

1. Purpose of Application

Franklin Baking Company, LLC currently holds Title V Permit No. 07844T13 with an expiration date of October 31, 2024 for a commercial bakery facility in Goldsboro, Wayne County, North Carolina. This permit application is for a permit renewal without modification. The renewal application was received on March 15, 2024, or at least six months prior to the expiration date. Therefore, the existing permit shall not expire until the renewal permit has been issued or denied. All terms and conditions of the existing permit shall remain in effect until the renewal permit has been issued or denied.

2. Facility Description

The most recent inspection report by inspector Connelly Huter, dated June 18, 2024, describes the facility as follows:

As currently configured, Franklin Baking Company (FBC) produces loaf bread and hot dog & 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 hot dog 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 8 hours per week for maintenance on each line. The site has approximately 350 employees and produces about 1 million loaves per day. When the bakery is running at maximum production, FBC is able to produce 180 loaves 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 hot dog and 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 trucks, two by the hot dog and hamburger bun 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 operating 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.

The following boilers are active at the FBC facility:

- Natural gas-fired boiler (4.2 million Btu per hour maximum heat input) **(ID No. ES-B-1)**
- Natural gas-fired boiler (6.1 million Btu per hour maximum heat input) **(ID No. ES-B-2)**
- Natural gas-fired boiler (4.2 million Btu per hour maximum heat input) **(ID No. ES-B-3)**
- Natural gas-fired boiler (3.3 million Btu per hour maximum heat input) **(ID No. ES-B-4)**

The following ovens are active at the FBC facility:

- Natural gas-fired oven (5.4 million Btu per hour maximum heat input) **(ID No. ES-S-O-1)**
- Natural gas-fired oven (11.87 million Btu per hour maximum heat input) **(ID No. ES-S-O-2)**
- Natural gas-fired oven (4.1 million Btu per hour maximum heat input) **(ID No. ES-S-O-3)**

The following silos are active at the FBC facility:

- Flour storage silo 6 (100 ton capacity) **(ID No. ES-S6)**
    - One bin vent bagfilter (209 sq. ft. of filter surface area) **(ID No. CD-BF7)**

- Flour storage silo 7 (100 ton capacity) **(ID No. ES-S7)**
    - One bin vent bagfilter (209 sq. ft. of filter surface area) **(ID No. CD-BF8)**
- Flour storage silo 8 (100 ton capacity) **(ID No. ES-S8)**
    - One bin vent bagfilter (139 sq. ft. of filter surface area each) **(ID No. CD-BF9)**
- Flour storage silo 9 (100 ton capacity) **(ID No. ES-S9)**
    - One bin vent bagfilter (139 sq. ft. of filter surface area) **(ID No. CD-BF10)**
- Flour storage silo 10 (75 ton capacity) **(ID No. ES-S10)**
    - One bin vent bagfilter (261 sq. ft. of filter surface area) **(ID No. CD-BF11)**

The following label printing operations are active at the FBC facility:

- Label printing operation (ink jet printing, eight stations total) **(ID No. ES-P1)**

The following insignificant activities are active at the FBC facility:

- Parts Washer **(ID No. I-PW)**

The facility is a Title V facility because emissions of volatile organic compounds (VOCs) exceed 100 tons per year (tpy).

3. History/Background/Application Chronology

History/Background

November 18, 2019	TV permit renewal issued. Air Permit No. 07844T11 was issued on November 18, 2019, with an expiration date of October 31, 2024. *(See Alice Wessner's TV review for permit No. 07844T11, dated November 18, 2019.)*
February 24, 2023	Air Permit No. 07844T12 was issued for a significant modification on February 24, 2023. This permit action was the first part of a two-step process detailed under 15A NCAC 02Q .0501(b)(2). FBC planned to change their production process from a sponge and dough process to a straight dough process, which could cause the potential to emit (PTE) of VOCs to exceed the PSD threshold of 250 tons per year. After a meeting between FBC and the NC DAQ, the facility-wide permitted VOC emission limit was set to be increased. The facility would select a consecutive 24-month baseline actual emissions period from the preceding five year period, which would be added to the significant emissions rate (250 tpy). This total was to become the PSD avoidance limit as of the new permit issuance. The change in production process would cause the facility's PSD classification to be increased to "major." *(See Alice Wessner's TV review for permit No. 07844T12, dated February 24, 2023.)*
July 17, 2024	Air Permit No. 07844T13 was issued for a significant modification on July 17, 2024. This permit action was the second part of a two-step process detailed under 15A NCAC 02Q .0501(b)(2) and finalized the actions taken in the previous permit application. This permit issuance also accommodates the replacement of existing natural gas-fired boiler ES-B-1 with a boiler of the exact same size. No regulatory changes were needed as a result of the replacement. *(See Suraiya Akter's TV review for permit No. 07844T13, dated July 17, 2023.)*

Application Chronology

March 15, 2024	Received permit application 9600235.24B for renewal.
March 15, 2024	Sent acknowledgment letter indicating that the application for permit renewal was complete.
August 13, 2024	Application transferred to DAQ permitting engineer Luke Mayer for processing.
September 30, 2024	Draft permit and review forwarded to Supervisor for comments.
October 4, 2024	Comments received from Supervisor. Additional detail needed in regulatory review and review for PSD, Air Toxics, and Compliance Status sections. Various formatting revisions and reference additions. Correction approved for reporting period dates in Sections 2.1 A.4 and A.5. Addition of 12-month total recordkeeping requirement in Section 2.2. Removal of Section 2.3 as provisions have been met.
October 10, 2024	Draft permit and review forwarded to applicant, SSCB, and regional office for comments.
October 14, 2024	Connelly Huter from the Washington Regional Office indicated via email that they had no comments on the draft permit or permit review.
October 16, 2024	Samir Parekh from the Stationary Source Compliance Branch indicated via email that they had no comments on the draft permit or permit review.
October 22, 2024	Darrell Long from Franklin Baking Company indicated via email that they had no comments on the draft permit or permit review.
October 28, 2024	Draft permit and permit review forwarded to public notice via DAQ website.
November 27, 2024	Public comment period ends. Comments were not received.
December 12, 2024	EPA comment period ends. Comments were not received.
December 16, 2024	Permit issued.

4. Permit Modifications/Changes and TVEE Discussion

The following table describes the modifications to the current permit as part of the renewal process. This summary is not meant to be an exact accounting of each change but a summary of those changes.

Page(s)	Section	Description of Changes
Cover Letter and throughout permit	--	• Updated all dates and revision numbers • Reformatted permit in accordance with current TV permitting shell

Page(s)	Section	Description of Changes
8, 10	2.1 A.4 and A.5	• Corrected the reporting period dates in the reporting requirements for all four boilers. • The first report for boilers ES-B-1, ES-B-3, and ES-B-4 shall cover February 24, 2026 through December 31, 2030. • The first report for boiler ES-B-2 shall cover February 24, 2026 through December 31, 2027.
14	2.1 C.2	• Added a monitoring requirement for visible emissions from the silos in the case of months when the silos are not loaded, and an associated recordkeeping requirement
17	2.2	• Added rolling 12-month total to recordkeeping requirements for PSD avoidance condition
19	2.3	• Removed Section 2.3: Other Applicable Requirements (15A NCAC 02Q .0504: Option for Obtaining Construction and Operation Permit) as the requirements have been met and the provisions are no longer needed

This permit renewal is being processed without modification, and no changes to the Title V Equipment Editor are needed. TVEE was reviewed and approved by Connie Horne of DAQ on October 23, 2024.

EPA has promulgated a rule (88 FR 47029, July 21, 2023), with an effective date of August 21, 2023, removing the emergency affirmative defense provisions in operating permits programs, codified in both 40 CFR 70.6(g) and 71.6(g). EPA has concluded that these provisions are inconsistent with the EPA's current interpretation of the enforcement structure of the CAA, in light of prior court decisions[1]. Moreover, per EPA, the removal of these provisions is also consistent with other recent EPA actions involving affirmative defenses[2] and will harmonize the EPA's treatment of affirmative defenses across different CAA programs.

As a consequence of this EPA action to remove these provisions from 40 CFR 70.6(g), it will be necessary for states and local agencies that have adopted similar affirmative defense provisions in their Part 70 operating permit programs to revise their Part 70 programs (regulations) to remove these provisions. In addition, individual operating permits that contain Title V affirmative defenses based on 40 CFR 70.6(g) or similar state regulations will need to be revised.

Regarding NCDAQ, it has not adopted these discretionary affirmative defense provisions in its Title V regulations (15A NCAC 02Q .0500). Instead, DAQ has chosen to include them directly in individual Title V permits as General Condition (GC) J.

Per EPA, DAQ is required to promptly remove such impermissible provisions, as stated above, from individual Title V permits, after August 21, 2023, through normal course of permit issuance.

[1] NRDC v. EPA, 749 F.3d 1055 (D.C. Cir. 2014).

[2] In newly issued and revised New Source Performance Standards (NSPS), emission guidelines for existing sources, and NESHAP regulations, the EPA has either omitted new affirmative defense provisions or removed existing affirmative defense provisions. See, e.g., National Emission Standards for Hazardous Air Pollutants for the Portland Cement Manufacturing Industry and Standards of Performance for Portland Cement Plants; Final Rule, 80 FR 44771 (July 27, 2015); National Emission Standards for Hazardous Air Pollutants for Major Sources: Industrial, Commercial, and Institutional Boilers and Process Heaters; Final Rule, 80 FR 72789 (November 20, 2015); Standards of Performance for New Stationary Sources and Emission Guidelines for Existing Sources: Commercial and Industrial Solid Waste Incineration Units; Final Rule, 81 FR 40956 (June 23, 2016).

This change to the General Conditions took place in the previous permit issuance for a significant modification, Air Permit No. 07844T13, dated July 17, 2024. However, this issuance (07844T14) is the latest renewal to include the change, so the justification for the change has been included in this statement of basis.

5. Regulatory Review

Franklin Baking Company is subject to the following regulations. The facility's equipment and operations have not changed since the last renewal in 2019. The permit was updated to reflect the most current stipulations for all applicable regulations, where necessary.

15A NCAC 02D .0503: Particulates from Fuel Burning Indirect Heat Exchangers – The FBC facility operates four boilers **(ID Nos. ES-B-1**, **ES-B-2**, **ES-B-3**, and **ES-B-4)** with varying maximum heat inputs. Boiler **ES-B-1** has a maximum heat input rate of 4.2 million Btu per hour, boiler **ES-B-2** has a maximum heat input rate of 6.1 million Btu per hour, boiler **ES-B-3** has a maximum heat input rate of 4.2 million Btu per hour, and boiler **ES-B-4** has a maximum heat input rate of 3.3 million Btu per hour. This rule applies to all four boilers.

Per 02D .0503(e): "The sum of maximum heat input of all fuel burning indirect heat exchangers at a plant site which are in 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." Therefore, the maximum heat input, Q, will be the sum of the maximum heat input for each boiler, and the particulate matter limits under 15A NCAC 02D .0503 will be the same for all four boilers. The formula used for calculating emission limits for fuel-burning heat exchangers is given by

$$E = 1.090 \times Q^{-0.2594}$$

Where

E = allowable emission limit [lb/million Btu]
Q = maximum heat input [million Btu/hr]

Summing the maximum heat inputs from the four boilers,

$$Q = 4.2 + 6.1 + 4.2 + 3.3 = 17.8 \text{ million Btu/hr in total}$$

With this total maximum heat input known,

$$E = 1.090 \times (17.8)^{-0.2594} = 0.516 \text{ lb/million Btu}$$

The emission factor for firing natural gas in a boiler is 0.005 pounds per million Btu, as provided in DAQ's "Natural Gas Combustion Emissions Calculator, Revision N (01/05/2017)", which is below the allowable emission limit of 0.516 pounds per million Btu. Thus, no monitoring, recordkeeping, or reporting is required for particulate emissions from the firing of natural gas in the affected sources due to the inherently low particulate emission rate associated with natural gas combustion. PTE calculations and the most recent inspection report by inspector Connelly Huter, dated June 18, 2024, indicate that the facility is complying successfully with the emission limits and the requirements for monitoring, recordkeeping, and reporting. Continued compliance with 02D .0503 is expected.

15A NCAC 02D .0515: Particulates from Miscellaneous Industrial Processes – The FBC facility operates several sources for production of food products which can be considered miscellaneous industrial processes as no other specific legislation governs emissions from these processes. These sources include the three ovens **(ID Nos. ES-S-O-1**, **ES-S-O-2**, and **ES-S-O-3)** and the five silos **(ID Nos. ES-S6**, **ES-S7**, **ES-S8**, **ES-S9**, and **ES-S10)** at the facility. This rule applies to all of the above equipment based on process rate in tons per hour. Emission limits are to be calculated for each applicable unit of equipment using the following formula:

$E = 4.10 \times P^{0.67}$ (for process rates less than or equal to 30 tons per hour), or
$E = 55.0 \times P^{0.11} - 40$ (for process rates greater than 30 tons per hour)

E = allowable emission rate [lb/hr]
P = process rate [tons/hr]

If emissions testing is required, the testing shall be performed in accordance with General Condition JJ. If the results of this test are above the limit given above, the Permittee shall be deemed in noncompliance with 15A NCAC 02D .0515. PTE calculations using maximum throughput data from Jenny Kelvington's permit review for Air Permit No. 07844T07, dated June 29, 2009, and the facility's emissions inventory data suggest that the facility's actual emissions are well below the threshold set for each source using the formula above. The maximum process rates of the affected sources are reported as follows:

- **ES-S-O-1:** 30,000,000 lb/yr or 1.712 tons/hr
- **ES-S-O-2:** 70,000,000 lb/yr or 3.995 tons/hr
- **ES-S-O-3:** 42,000,000 lb/yr or 7.365 tons/hr
- All silos: 45 tons/hr

Emission Source ID No.	Maximum Process Rate (tph)	Allowable Emission Rate (lb/hr)	Potential Emission Rate (lb/hr)	In Compliance with 02D .0515?
ES-S-O-1	1.712	5.878	0.00	Yes
ES-S-O-2	3.995	10.371	0.01	Yes
ES-S-O-3	2.397	7.365	0.00	Yes
ES-S6	45	43.602	8.1* 1.44**	Yes
ES-S7				Yes
ES-S8				Yes
ES-S9				Yes
ES-S10				Yes

* Straight truck transport
** Railcar transport

Emission factors for ovens for the calculations above were taken from DAQ's "Natural Gas Combustion Emissions Calculator, Revision N (01/05/2017)". Emission factors for grain silos used for receiving were taken from AP-42, Section 9.9.1, Grain Elevators and Processes. Rates were calculated for two possible scenarios: straight truck transport and railcar transport.

The facility is required to complete monthly visual inspections of the system ductwork and material collection unit, and an annual inspection of the structural integrity of the bagfilters, for the silos and ovens as applicable. The most recent inspection report by Connelly Huter, dated June 18, 2024,

indicates that the facility is complying with these requirements. Continued compliance with 02D .0515 is expected.

15A NCAC 02D .0516: Sulfur Dioxide Emissions from Combustion Sources – The FBC facility operates seven total combustion sources: four boilers **(ID Nos. ES-B-1**, **ES-B-2**, **ES-B-3**, and **ES-B-4)** and three ovens **(ID Nos. ES-S-O-1**, **ES-S-O-2**, and **ES-S-O-3)**. A flat emission limit of 2.3 lb SO_2 per million Btu heat input is placed on all of these units regardless of size, process rate, or maximum heat input rate.

All of the affected sources subject to 02D .0516 burn natural gas as fuel. As per AP-42 Section 1.4, Natural Gas Combustion, the sulfur dioxide emission factor for natural gas combustion is 0.6 lb/10^6 scf. Using a standard natural gas heating value of 1,020 Btu/scf, this emission factor can be converted to a value of 0.0006 pounds per million Btu heat input which is much lower than the allowable emission limit of 2.3 pounds per million Btu heat input. Thus, no monitoring, recordkeeping, or reporting is required as the sulfur content of natural gas is very low and very little emissions can be expected from these sources. If emissions testing is required, the testing shall be performed in accordance with General Condition JJ. If the results of the test are above the limit given in the rule, the Permittee will be deemed in noncompliance with 15A NCAC 02D .0516. PTE calculations and annual emissions inventory data suggest that sulfur dioxide emissions from each source at the facility will be well below the limit. The most recent inspection report indicates that the facility is complying with all limits for sulfur dioxide emissions and associated monitoring, recordkeeping, and reporting requirements. Continued compliance with 02D .0516 is expected.

15A NCAC 02D .0521: Control of Visible Emissions – All of the FBC facility's sources, except for the label printing operation, are capable of generating visible emissions. All sources appear to have been built after July 1, 1971, and shall have opacity limits set based on that fact.

For sources manufactured after July 1, 1971, visible emissions shall not be more than 20 percent opacity when averaged over a six-minute period. However, except for sources required to install COMs, six-minute averaging periods may exceed 20 percent opacity if:

(1) No six-minute period exceeds 87 percent opacity;
(2) No more than one six-minute period exceeds 20 percent opacity in any hour; and
(3) No more than four six-minute periods exceed 20 percent opacity in any 24-hour period.

If emissions testing is required, the testing shall be performed in accordance with General Condition JJ. If the results of this test are above the limit given in the rule, the Permittee shall be deemed in noncompliance with 15A NCAC 02D .0521. Monthly emissions monitoring of the silos is required, and results from the monitoring activities must be maintained in a logbook. Semi-annually, the owner or operator of the facility must submit a summary of their observations. Finally, a monthly visual emissions inspection is performed when the silo is being loaded. No monitoring, recordkeeping, or reporting is required for sources that fire natural gas. The most recent inspection report indicates that the facility is complying successfully with all monitoring, reporting, and recordkeeping requirements. Continued compliance with 02D .0521 is expected.

15A NCAC 02D .1111: Maximum Achievable Control Technology – FBC operates sources that are subject to one NESHAP rule. These are the four boilers **(ID Nos. ES-B-1**, **ES-B-2**, **ES-B-3**, and **ES-B-4)** which are subject to 40 CFR 63, Subpart DDDDD: National Emission Standards for Hazardous Air Pollutants for Major Sources – Industrial, Commercial, and Institutional Boilers and Process Heaters. The facility is required to comply with all applicable parts of this regulation. See NESHAP review in Section 6 for more information.

15A NCAC 02D .1806: Control and Prohibition of Odorous Emissions – Facility-wide, all sources are subject to requirements concerning smells and odors. The facility is expected to implement management practices that prevent odorous emissions at the facility from creating or contributing to objectionable odors beyond the facility boundaries. The most recent inspection report indicated that no odors were detected outside the facility and that the only odors detectable inside the facility were those generated by baking. Furthermore, the facility does not have a history of odor complaints to the DAQ from neighbors or other citizens. Continued compliance is expected. Note that this condition is **state-enforceable only.**

15A NCAC 02Q .0317: Avoidance Conditions – The FBC facility is subject to PSD avoidance conditions due to its potential to emit VOCs above the 250 tons per year threshold. See the PSD condition review below in Section 6 for more information about the facility's avoidance conditions and history under PSD.

15A NCAC 02Q .0711: Emission Rates Requiring a Permit – FBC has identified 6 toxic air pollutant (TAP) emissions from the facility: acetaldehyde, benzene, benzo(a)pyrene, formaldehyde, n-hexane, and toluene. See the Facility Wide Air Toxics review in Section 7 for more information about the facility's air toxics-related conditions and history.

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

NSPS

The facility is not currently subject to any New Source Performance Standards. This permit renewal does not change the facility's NSPS status.

40 CFR 60, Subpart Dc: Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units – None of the facility's four boilers **(ID Nos. ES-B-1**, **ES-B-2**, **ES-B-3**, and **ES-B-4)** are subject to this subpart. Subpart Dc covers boilers that have maximum design heat input capacities of 100 million Btu per hour or less, but greater than or equal to 10 million Btu per hour. The facility's boilers have maximum design heat input capacities of 4.2 million Btu per hour, 6.1 million Btu per hour, 4.2 million Btu per hour, and 3.3 million Btu per hour respectively, and are too small for this subpart to apply.

NESHAP/MACT

The facility is currently subject to one Maximum Achievable Control Technology standard: 40 CFR 63, Subpart DDDDD: National Emission Standards for Hazardous Air Pollutants for Major Sources: Industrial, Commercial, and Institutional Boilers and Process Heaters. This permit renewal does not change the facility's MACT status. The FBC facility became a major source for HAPs after the recent significant modification (see Air Permit Nos. 07844T12 and 07844T13) due to a production process change that resulted in a PTE increase for acetaldehyde up to 13.8 tons per year. It should be noted, however, that the boilers are not sources of acetaldehyde. Previously, the facility was a minor source of HAPs. The requirements of 15A NCAC 02D .1112 (112(g)) did not apply for this significant modification since no new major source of HAPs was constructed or reconstructed as per 02D .01112(a).

40 CFR 63, Subpart DDDDD: National Emission Standards for Hazardous Air Pollutants for Major Sources – Industrial, Commercial, and Institutional Boilers and Process Heaters – The facility's four boilers **(ID Nos. ES-B-1**, **ES-B-2**, **ES-B-3**, and **ES-B-4)** are all subject to Subpart DDDDD of this

part. These four boilers have maximum design heat input capacities of 4.2, 6.1 4.2, and 3.3 million Btu per hour respectively, and are all designed to burn gas 1 fuels, specifically natural gas.

As described in §63.7485, this subpart applies to industrial, commercial, and institutional boilers or process heaters that are located at, or are part of, major sources of HAPs. All four boilers can be considered subject as existing sources described in §63.7490(a)(1): "The affected source of this subpart is the collection at a major source of all existing industrial, commercial, and institutional boilers and process heaters within a subcategory as defined in §63.7575." Furthermore, the boilers cannot claim any exemption from this subpart as provided in §63.7491, since they are not electricity generating units (EGUs), recover boilers, used for research and development, hot water heaters, refining kettles, ethylene cracking furnaces, blast furnace stoves, part of an affected source subject to another subpart, used as a control device to comply with another subpart, temporary units, blast furnace boilers, specifically listed in section 129 of the Clean Air Act, units that burn hazardous waste covered by Subpart EEE, or residential boilers. As previously mentioned, the boilers are fired with natural gas (a gas 1 fuel) and fall under the subcategory of §63.7499(l), "Units designed to burn gas 1 fuels."

Facility operators must meet the requirements of §63.7500(a)(1) for whichever category fits their boiler. As existing boilers, the facility is subject to §63.7500(a)(1)(v) and must comply with the following: "[The facility] must comply with either the emission limits in Table 2 to this subpart or the emission limits in Table 15 to this subpart until [they] comply with the emission limits in Table 2." The facility is also subject to §63.7500(a)(2) and "must meet each operating limit in Table 4 to this subpart that applies to [their] boiler or process heater." Finally, they must operate and maintain any affected source in a manner consistent with safety and good air pollution control practices for minimizing emissions in accordance with §63.7500(a)(3). These standards apply at all times the affected unit(s) are operating, except during periods of startup and shutdown, during which items 5 and 6 of Table 3 to this subpart apply instead in accordance with §63.7500(f).

Tables 2, 4, and 15 do not have any limits that apply to the boilers, as they all have no sections for units that burn gas 1 fuel. However, Table 3 does include work practice standards that must be followed. These standards differ slightly between all four boilers due to their varying sizes.

Boilers **ES-B-1**, **ES-B-3**, and **ES-B-4** all have maximum design heat input capacities below 5 million Btu per hour. For these boilers, an initial tune-up and one-time energy assessment must be completed no later than February 24, 2026. According to the most recent inspection report by Connelly Huter of the Washington Regional Office, dated June 18, 2024, the tune-ups were completed on February 22, 2024, and the records emailed to DAQ on June 14, 2024. The facility must also submit a notification of compliance status by April 25, 2026, including the following: description of the affected unit(s) including identification of which subcategories the unit is in (as described in §63.7499(a) through (u)), design heat capacity of the unit, and description of fuel burned; and the two certifications of compliance outlined in paragraphs 2.4.e.ii.(A) and 2.4.e.ii.(B), in accordance with §63.7530(e) and §63.7545(e). The following work practice standards must be followed for these boilers: the Permittee shall conduct a tune-up every <u>five</u> years as specified in paragraphs 2.1 A.4.f.i.(A) through 2.1 A.4.f.i.(E) (in accordance with §63.7500(a), 63.7540(a)(10) and 63.7540(a)(12)); and the Permittee shall operate and maintain any affected source in a manner consistent with safety and good air pollution control practices for minimizing emissions (in accordance with §63.7500(a)(3)). The Permittee shall also have a one-time energy assessment completed by a qualified assessor in accordance with 63.7500(a)(1) and Table 3 to 40 CFR Part 63, Subpart DDDDD. The Permittee shall maintain records of each notification and report submitted, records of the concentration of CO and oxygen in the effluent stream before and after tune-up, records of any corrective actions taken as part of the tune-up, and type and amount of fuel used in the 12 months prior to the tune-up if the unit is

capable of using more than one type of fuel in accordance with §63.7540(a)(10)(vi). Finally, the Permittee must submit compliance reports every 5 years in accordance with §63.7550(a) and (b), both to the DAQ and through CEDRI in accordance with 63.7550(h)(3).

Boiler **ES-B-2** has a maximum design heat input capacity above 5 million, but below 10 million Btu per hour. Due to the size difference, the requirements for this boiler differ slightly from those for the other three boilers. For this boiler, an initial tune-up and one-time energy assessment must be completed no later than February 24, 2026. According to the most recent inspection report by Connelly Huter of the Washington Regional Office, dated June 18, 2024, the tune-ups were completed on February 22, 2024, and the records emailed to DAQ on June 14, 2024. The facility must also submit a notification of compliance status by April 25, 2026, including the following: description of the affected unit(s) including identification of which subcategories the unit is in (as described in §63.7499(a) through (u)), design heat capacity of the unit, and description of fuel burned; and the two certifications of compliance outlined in paragraphs 2.4.e.ii.(A) and 2.4.e.ii.(B), in accordance with §63.7530(e) and §63.7545(e). The following work practice standards must be followed for these boilers: the Permittee shall conduct a tune-up every <u>two</u> years as specified in paragraphs 2.1 A.5.f.i.(A) through 2.1 A.5.f.i.(E) (in accordance with §63.7500(a), 63.7540(a)(10) and 63.7540(a)(11)); and the Permittee shall operate and maintain any affected source in a manner consistent with safety and good air pollution control practices for minimizing emissions (in accordance with §63.7500(a)(3)). The Permittee shall also have a one-time energy assessment completed by a qualified assessor in accordance with 63.7500(a)(1) and Table 3 to 40 CFR Part 63, Subpart DDDDD. The Permittee shall maintain records of each notification and report submitted, records of the concentration of CO and oxygen in the effluent stream before and after tune-up, records of any corrective actions taken as part of the tune-up, and type and amount of fuel used in the 12 months prior to the tune-up if the unit is capable of using more than one type of fuel in accordance with §63.7540(a)(10)(vi). Finally, the Permittee must submit compliance reports every 5 years in accordance with §63.7550(a) and (b), both to the DAQ and through CEDRI in accordance with 63.7550(h)(3).

As mentioned previously, the most recent inspection report indicates that the tune-ups have been completed and their reports submitted to the DAQ. The facility first became subject to this subpart with the issuance of Air Permit No. 07844T12 on February 24, 2023, and has until the dates written above to complete the remaining requirements. Continued compliance is expected.

It should be noted that the initial MACT DDDDD reporting dates for all boilers as found in Permit Condition Nos. 2.1 A.4.i and 2.1 A.5.i have been corrected with this permit renewal to be consistent with the requirements of 63.7495(c)(1) and 63.7550(b)(1).

<u>PSD</u>

The FBC facility is subject to PSD avoidance conditions due to its potential to emit VOCs at a rate greater than 250 tons per 12-month period and has been since at least the issuance of Air Permit No. 07844T05 in October 2004. As mentioned previously, the PSD avoidance conditions were changed in the two most recent permit issuances (Air Permit No. 07844T12 and 07844T13) to accommodate a production change that increased the facility's potential to emit VOCs. This change required the facility to use a consecutive 24-month baseline actual emissions period to calculate an average baseline emissions rate, which was then added to the 250 tons per year significance threshold. This was completed as required and the limit was increased to 399 tons per year (250 tpy + 149 tpy, calculated from actual emissions in 2020 and 2021). This renewal will not change the facility's PSD status or limits.

The facility is required to track VOC emissions each month and report VOC emissions going back 17 months as well as a 12-month rolling average in a semi-annual compliance report. The most recent inspection report indicates that the facility is complying with requirements for PSD avoidance. Continued compliance with 02Q .0317 and 02D .0530 is expected.

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 112(r) thresholds. No change with respect to 112(r) is anticipated under this permit renewal.

CAM

The CAM rule (40 CFR 64; 15A NCAC 02D .0614) applies to each pollutant specific emissions unit (PSEU) at major TV facilities that meets all three following criteria:

- the unit is subject to any (non-exempt: e.g., pre November 15, 1990, Section 111 or Section 112 standard) emission limitation or standard for the applicable regulated pollutant.
- the unit uses any control device to achieve compliance with any such emission limitation or standard.
- The unit has potential pre-control device emissions of the applicable regulated air pollutant that are equal to or greater than 100 percent of the amount, in tons per year, required for a source to be classified as a major source (i.e., 100 tons per year for criteria pollutants or 10/25 tons per year for HAPs).

The facility has five sources that utilize control devices, which are the five storage silos **(ID Nos. ES-S6**, **ES-S7**, **ES-S8**, **ES-S9**, **ES-S10)**. In a previous air permit review (Air Permit No. 07844T11, 2019), it was determined that CAM was not applicable to these sources. Using the uncontrolled emission factor of 0.46 lb PM_{10} per ton cement as described in AP-42 Section 11.6, Portland Cement Manufacturing to estimate emissions from the silo, it was determined that each silo has an uncontrolled/pre-controlled emission rate of roughly 90.1 tons of PM_{10} per year. Cement manufacturing emission factors were chosen because cement in powder form has similar properties to flour. This estimation is based on a maximum throughput of 45 tons per hour for the silos provided in another previous air permit review (Air Permit No. 07844T07, 2009), and a standard maximum operation time of 8760 hours per year. As this emission rate falls below the 100 tons per year threshold, it was determined CAM was not applicable in this case. The five silos have not changed since this determination and this renewal will not affect the facility's CAM status.

7. Facility Wide Air Toxics

FBC has identified emissions of the following toxic air pollutants (TAP)s as regulated by North Carolina's air toxics regulations:

- 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

In a previous air permit review (Air Permit No. 07844T12, 2023), an air toxics analysis was completed, and it was determined that none of these TAPs were emitted at rates that exceeded the regulatory thresholds. As a result, no air toxics conditions were applied to the facility. No changes to the facility or

its production methods are occurring under this permit renewal, so no air toxics conditions will be added to the permit at this time.

For this renewal, actual facility emissions data for toxic air pollutants from calendar year 2022 was compared to the allowable toxic pollutant emission rates (TPERs) to confirm that the emission rate remains below regulatory thresholds. Shown below are the reported toxic air pollutants, their CAS numbers for identification, their actual rates of emission, and their respective regulatory thresholds. All emissions were found to be below their limits, so there is no need for air toxics regulations given in 02D .1100 to be imposed on the facility.

Pollutant	CAS Number	Actual Emission Rate (lb/yr)	TPER Limit (lb/yr)
Benzene	71-43-2	0.14898	8.1
Formaldehyde	50-00-0	5.32073	350.4
Hexane, n-	110-54-3	127.69758	16,899.5
Toluene	108-88-3	0.24121	72,255.4

8. Facility Emissions Review

The facility-wide potential emissions have not changed because of this TV permit renewal. Actual emissions for criteria pollutants and HAPs for the previous five years reporting periods are provided in the header of this permit review.

9. Compliance Status

DAQ has reviewed the compliance status of Franklin Baking Company. During the most recent inspection, conducted by Connelly Huter of the Washington Regional Office on May 30, 2024, the facility appeared to be in compliance with all applicable requirements. Further, the facility has had no air quality violations within the last five years. The facility's Annual Compliance Certification was received on January 29, 2024, and indicated compliance with all applicable requirements in 2023. The facility also certified compliance through the submission of an E5 form, signed by the responsible official, plant manager Jason Geddings, included along with their application.

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 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. Regardless of distance, all nearby states and local air programs will be notified in accordance with DAQ policy.

Public Notice of the Draft Title V Permit ran from October 28, 2024, to November 27, 2024. No comments were received.

EPA's 45-day review period ran concurrent with the 30-day Public Notice, from October 28, 2024, to December 12, 2024. No comments were received.

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 Franklin Baking Company - Goldsboro 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 Permit No. 07844T14.