NORTH CAROLINA DIVISION OF AIR QUALITY

Application Review

Issue Date: TBD

Region: Winston-Salem Regional Office
County: Davidson
NC Facility ID: 2900106
Inspector's Name: Andrew Kormos
Date of Last Inspection: 12/08/2022
Compliance Code: 3 / Compliance - inspection

Facility Data

Applicant (Facility's Name): Owens-Brockway Glass Container Inc.

Facility Address:
Owens-Brockway Glass Container Inc.
9698 Old US Highway 52 South
Lexington, NC 27295

SIC: 3221 / Glass Containers
NAICS: 327213 / Glass Container Manufacturing

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

Permit Applicability (this application only)

SIP: 02D: .0515, .0516, .0521, .0524, .1100, .1111, .1806
02Q: .0317
NSPS: Subpart IIII
NESHAP: Subparts ZZZZ, SSSSSS
PSD: n/a
PSD Avoidance: PM, NOx
NC Toxics: 02D .1100
112(r): no RMP required
Other: n/a

Contact Data

Facility Contact	Authorized Contact	Technical Contact
Greg Dellinger EHS Manager (567) 336-3906 9698 Old US Highway 52 South Lexington, NC 27295	Andrew Wolfe Plant Manager (567) 336-3900 9698 Old US Highway 52 South Lexington, NC 27295	Greg Dellinger EHS Manager (567) 336-3906 9698 Old US Highway 52 South Lexington, NC 27295

Application Data

Application Number: 2900106.22A (&.20A)
Date Received: 08/18/2022
Application Type: Renewal/Modification
Application Schedule: TV-Renewal

Existing Permit Data
Existing Permit Number: 01491/T23
Existing Permit Issue Date: 08/24/2021
Existing Permit Expiration Date: 02/28/2023

Total Actual emissions in TONS/YEAR:

CY	SO2	NOX	VOC	CO	PM10	Total HAP	Largest HAP
2022	208.53	429.82	24.89	3.14	74.34	2.67	1.12 [Hydrogen chloride (hydrochlori]
2021	226.57	463.63	28.70	3.43	70.56	2.99	1.55 [Hydrogen chloride (hydrochlori]
2020	204.48	424.83	25.14	3.66	68.58	2.56	1.17 [Hydrogen chloride (hydrochlori]
2019	242.50	598.92	25.55	3.40	97.62	2.42	1.17 [Hydrogen chloride (hydrochlori]
2018	288.74	435.27	13.75	4.30	76.55	3.46	1.93 [Hydrogen chloride (hydrochlori]

Review Engineer: Russell Braswell

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

Comments / Recommendations:
Issue 01491/T24
Permit Issue Date: TBD
Permit Expiration Date: TBD + 5 years

1. Purpose of Applications

1.1 2900106.22A (Title V permit renewal with modification)

Owens-Brockway Glass Container Inc. (O-B; the facility) operates a factory in Davidson County under Air Quality Permit No. 01491T23 (the existing permit). The existing permit expired on February 28, 2023. Prior to expiration, O-B submitted this application in order to renew the permit. Per General Condition K of the existing permit, because the renewal application was received at least six months before the expiration date of the existing permit, the existing permit shall remain in effect, regardless of expiration date, until DAQ issues or denies the renewed permit.

In addition, the existing permit includes Specific Condition 2.1 A.6, which required O-B to submit an application for significant modification (2nd step) per 15A NCAC 02Q .0500 no later than August 24, 2022. O-B also submitted this application in order to satisfy that Specific Condition.

While applications for permit renewal do not require an application fee, applications for 2nd step significant modification do require an application fee if the 1st step was received before November 18, 2021. O-B therefore included the required application fee for this application.

1.2 2900106.20A (502(b)(10) notification; consolidated into application .22A)

In January 2020, O-B performed a substantial maintenance project on Furnace A (rebricking, replacing worn components, etc.). O-B submitted a 502(b)(10) notification claiming that this project constituted "routine maintenance, replacement, and repair" under PSD, and therefore no modification to the permit was required.

After further analysis, O-B amended this statement to show that, based on 02D .0530(u), no major modification for PSD took place.

2. Application Chronology

Date	Event
January 7, 2020	O-B submitted a calculation of baseline actual emissions and potential emissions from Furnace A (via email) to Jim Hafner (DAQ WSRO Permits Coordinator)
January 13, 2020	Application .20A (502(b)(10) notification) received.
August 24, 2021	DAQ issued permit revision T23 (Title V significant modification, part 1).
August 26, 2022	Application .22A (Title V renewal with Title V significant modification, part 2) received. Note that the application was postmarked August 23, 2022. DAQ consolidated Application .20A with .22A.
October 21, 2022	DAQ requested that O-B provide an original copy of the part 1 application.
November 1, 2022	O-B provided the requested copy of the application.
October 6, 2023	Responsibility for applications .20A and .22A transferred to Russell Braswell.
January 17, 2024	DAQ sent a letter (via email) requesting additional information with regards to O-B's claim of RMRR in the 502(b)(10) notification.
February 12, 2024	In-person meeting with DAQ staff and O-B staff to discuss the January 17 letter.
February 29, 2024	DAQ sent a follow-up letter (via email) clarifying DAQ's position and concerns with regards to O-B's claim of RMRR in the 502(b)(10) notification.
March 18, 2024	O-B submitted a response (via email) to the January 17 and February 29 letters.
March 21, 2024	DAQ sent additional questions (via email) regarding the cost of other rebuild projects and emission data presented in O-B's March 18 response.
April 26, 2024	DAQ sent a reminder regarding the March 21 request.
May 1, 2024	O-B submitted a response via email to the March 21 email. O-B provided emissions data for baseline and projected actual emissions under 02D .0530(u).
May 6, 2024	DAQ sent a request (via email): 1. Confirm the capacity of silo ES-SS2 (the existing permit appears to contain a typo). 2. O-B should officially request the inclusion of emission factors from the 2023 stack test in the permit.
May 9, 2024	O-B submitted a response to the May 6 request. 1. The capacity of silo ES-SS2 should be corrected. 2. O-B requested that the permit include the emission factors from the 2023 stack test.
May 10, 2024	An initial (internal) draft of the permit and this application review were sent to DAQ Permits staff for review.
May 20, 2024	A revised (pre-notice) draft of the permit and this application review were sent to DAQ SSCB staff, DAQ WSRO staff, and O-B staff.
XXXX	Public notice / EPA Review
XXXX	Permit issued.

3. Facility Description and History

3.1 Facility Description

O-B is a factory that produces glass which is mostly used for glass bottles. The facility operates three glass furnaces and operates on a 24/7 schedule. The facility also includes supporting activities such as bottle coating and emergency generators.

3.2 Title V Permit Revisions Following the Most Recent Title V Permit Renewal

Permit Revision (issued)	Application type	Notes
T22 (March 21, 2018)	Renewal (and 2nd step TV sig. mod., and 502(b)(10) notification)	• This was the most recent Title V permit renewal. • Removed No. 6 fuel oil as an option for the furnaces. • Added testing requirements for 02D .0515 and the furnaces.
T23 (August 24, 2021)	TV sig. mod. (1st step)	• Added a condition for PSD Avoidance for Furnace C and subsequent testing based on test results which indicated an exceedance of projected emissions under 02D .0530(u). • Added a requirement to submit a 2nd step application.

4. Title V Permit Revisions

4.1 Title V Permit Renewal

As stated previously, the Title V permit issued to O-B has expired. O-B had submitted an application for permit renewal before the expiration date of the existing permit.

As part of the Title V permit renewal, DAQ will make minor corrections to the existing permit (e.g., correcting typos) and will update the overall permit to DAQ's current template for Title V permits.

The Title V permit will be renewed with a permit term of five years.

4.2 Two-Step Significant Modifications and 15A NCAC 02Q .0504 "Option for Obtaining Construction and Operation Permit"

As stated previously, the existing permit includes Specific Condition 2.1 A.6, which required O-B to submit an application for significant modification (2nd step) per 15A NCAC 02Q .0500 no later than August 24, 2022. This condition was added after O-B applied for a new PSD avoidance condition to allow for rebuilding Furnace C without triggering a PSD review.

O-B included the required 2nd step application with the application for Title V permit renewal. This application was postmarked August 23, 2022, and therefore complied with the submittal deadline.

As part of the required 2nd step application, O-B requested that $PM_{2.5}$ emission limits be removed from Specific Condition 2.1 A.5. This change is allowable because in the T23 permit revision, DAQ specifically allowed O-B to choose between an emission limit for PM or $PM_{2.5}$. DAQ's review of application .21A and permit T23 are included here as Attachment 1.

4.3 502(b)(10) Notifications and Furnace A Rebuild Project

4.3.1 Background:

A "502(b)(10) modification" is a modification that meets the definition in 15A NCAC 02Q .0523(a). An application for permit modification is not required for 502(b)(10) changes; per 02Q .0523(a)(3), a 502(b)(10) change is integrated into a Title V permit during the next permit renewal or significant permit modification.

In order to make a 502(b)(10) modification, a facility must submit a notification. The notification must include a certification that the proposed modification qualifies as a 502(b)(10) modification. O-B submitted a 502(b)(10) notification on January 10, 2020, and DAQ designated that notification as application 2900106.20A. DAQ will evaluate that notification as part of the Title V permit renewal.

4.3.2 Project Details:

According to the notification, O-B completed a project to rebuild the furnace GF-A.FURN (the Project). Furthermore, according to the notification, this project did not trigger modification or reconstruction under NSPS Subpart CC, and met the definition of "routine maintenance, repair and replacement" (RMRR) under 40 CFR 51.166(b)(2); therefore, the Project was not a major modification for PSD. The notification stated "Toward the end of any glass melting furnace [*sic*], the furnace is rebuilt to allow for continued operation."

According to the notification, the Project involved:

(1) Reduce the melter area from 48.84 m^2 to 48.04 m^2.
(2) Reduce glass depth from 65 inches to 53 inches.
(3) Replace two screw-type batch chargers with two equivalent batch chargers. The notification explained that the original screw chargers were "obsolete" and the new batch chargers were "functionally equivalent."
(4) Replace the existing pair of electric boost transformers (total capacity 1,334 kVA) with a single boost transformer (total capacity 1,400 kVA). The notification explained that maintaining a single transformer was more economical, and that "connecting four electrode pairs to one transformer is also a more standard design for our operations. The 1400 kVA transformer is the closest standard size…and is a functionally equivalent replacement."
(5) Increase the refiner area from 6.28 m^2 to 7.12 m^2.
(6) Change the refiner heat input to 1.6 million Btu per hour (original heat input not listed).
(7) Reduce the forehearth length by 6 inches (original length not listed).
(8) Change the forehearth heat input to 2.4 million Btu per hour (original heat input not listed).
(9) "There will be no change to the heat input to the melter."

The notification only provided an explanation for items (3) and (4). No further justification or explanation was provided for other aspects of the projects.

The Project was anticipated to cost $14.8 million, with $7.4 million specifically dedicated to rebricking. Note that NSPS Subpart CC specifically excludes the cost of rebricking when examining reconstruction under §60.15. Finally, the notification estimated that, at the time, a brand-new furnace would cost between $32 and $35 million.

DAQ must examine the Project to determine if the project was a major modification for PSD, modification/reconstruction for NSPS, and/or reconstruction for NESHAP/MACT.

4.3.3 PSD Major Modifications

Background: Broadly, the PSD rules are listed in 40 CFR 51.166 and are incorporated into North Carolina's State Implementation Plan (SIP) under 15A NCAC 02D .0530 and .0544.

At a facility that has been designated a major stationary source under PSD, a "major modification" is any physical change or change in the method of operation that causes a significant emissions increase for a regulated NSR pollutant (see 40 CFR 51.166(b)(2)(i)). O-B is a major stationary source, and therefore any project must be examined as a potential major modification.

Routine maintenance, replacement, and repair: Under the PSD rules, "routine maintenance, repair and replacement" ("RMRR") is specifically listed as <u>not</u> a physical change or change in the method of operation (see 40 CFR 51.166(b)(2)(iii)(*a*)). Therefore, if a facility undertakes a project that meets the definition of RMRR, that project cannot be considered a major modification, and no further analysis under PSD is required. However, the PSD rules do not include a specific definition for RMRR. In the 502(b)(10) notification, O-B claimed the Project should be considered RMRR.

When DAQ examined the 502(b)(10) notification, DAQ determined that the information provided was insufficient to examine O-B's claim of RMRR. After additional discussion between O-B and DAQ, O-B submitted information on May 1, 2024 demonstrating that the Project was, instead, not a major modification

for PSD based on the "projected actual emissions" method in 15A NCAC 02D .0530(u). DAQ will set aside the claim of RMRR and instead examine the projected actual emissions.

Actual-to-projected-actual applicability test for projects that only involve existing emissions units: A facility may opt to show a project is not a major modification based on the difference between the baseline actual emissions (BAE) and projected actual emissions (PAE) of the project. If, for each regulated NSR pollutant, the difference between the PAE and BAE is less than the threshold for a significant emission increase, then the Project is not a major modification (see 40 CFR 51.166(a)(7)(iv)(*c*)).

Baseline actual emissions: To calculate the BAE (as defined in 40 CFR 51.166(b)(47)) of Furnace A, O-B looked at the monthly production of Furnace A for the 10 years preceding the Project (as allowed by 40 CFR 51.166(b)(47)). O-B began planning the Project in 2019, so O-B considered the 10-year period beginning in 2009.

However, North Carolina's SIP includes a definition of BAE that is different than the one in 40 CFR 51.166. See 15A NCAC 02D .0530(b)(1)(A):

> "For an existing emissions unit, baseline actual emissions means 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 owner or operator within the five year period immediately preceding the date that a complete permit application is received by the Division for a permit required under this Rule. 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."

Per 02D .0530(b)(1)(A), the lookback period is five years preceding the receipt of a permit application.[1] An applicant may request the lookback period be extended to ten years if the applicant "demonstrates that it is more representative of normal source operation," but O-B included no such demonstration in the initial submittal received in January 2020 or in the updated analysis received in 2024. Furthermore, the lookback period should include CY2019 data, but only CY2018 data was provided. DAQ will calculate the baseline period using the data provided (see Table 1).

[1] Note that O-B had initially submitted a baseline and projected actual emissions calculation in an email sent to Jim Hafner (Permits Coordinator, DAQ Winston-Salem Regional Office) before submitting the RMRR determination.

Table 1: Ten years of production data (Baseline period allowed by 02D .0530(b)(1)(A) is highlighted)

Year Month	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Jan	5065	5044	5033	5062	5187	4871	*4962*	*4511*	4726	4769
Feb	4620	4480	0	4725	4738	4519	*4452*	*4597*	4413	3143
Mar	5115	4960	5021	4969	5209	4971	*4947*	*4949*	4873	5010
Apr	4920	4800	4866	4815	4951	4826	*4733*	*4831*	3354	4775
May	5115	4960	4999	4870	4836	4722	*4951*	*4948*	4893	5031
Jun	4950	4836	4860	4644	4913	4774	*4768*	*4789*	4733	4889
Jul	5058	5054	4996	4604	5048	5027	*4909*	*4236*	4948	4964
Aug	5053	4960	4999	5131	5049	4195	*4742*	*4864*	4844	4907
Sep	4890	2919	4591	4890	4804	4838	*4716*	*4687*	4729	4772
Oct	5053	4991	4928	5061	5024	4929	*4809*	*4941*	4941	4947
Nov	4890	4868	4744	4991	4884	4831	*4764*	*4727*	4777	4733
Dec	3297	3070	4009	4142	3819	3777	*4269*	*3886*	3997	3997

Based on the data provided, the baseline period should be the 24-month period ending December 2016. During that period, the average monthly production rate was 4,708 tons per month. At that production rate, the annual production would be 56,496 tons per year. The BAE can be calculated using emission factors developed during a 2017 emission test performed on Furnace A.

Projected actual emissions: To calculate the PAE, instead of projecting actual emissions after the completion of the Project, O-B instead used Furnace A's potential emissions, as allowed by 40 CFR 51.166(b)(40)(ii)(*d*). O-B based the potential operations on the permitted daily maximum production rate of Furnace A. Note that the production rate of Furnace A was not changed as a result of the Project, and therefore this is a reasonable method of calculating potential emissions. O-B calculated emissions using emission factors developed during the 2017 emission test mentioned above.

BAE to PAE comparison: Because the emission factors are all in units of pounds of pollutant per ton of production, and the emission factors are the same for both the BAE and PAE calculation, the difference between the BAE and PAE can be calculated based on the difference in baseline production rate and potential production rate. The results of the PAE to BAE analysis are shown in Table 2:

Table 2: PAE to BAE comparison

Pollutant	Emission factor (lb/ton)	EF source	Change in emissions based on difference in Potential to Baseline (ton/yr)	SEI threshold (ton/yr)	SEI exceeded?	More than 50% of SEI?
NOx	6.09	stack test*	16.91	40	No	No
SO_2	3.19	stack test	8.86	40	No	No
PM_{total}	0.7	stack test	1.94	25	No	No
PM_{10}	0.67	stack test	1.86	15	No	No
$PM_{2.5}$	0.64	stack test	1.78	10	No	No
CO	0.007	Reported in EI	0.02	100	No	No
VOC	0.2	Reported in EI	0.56	40	No	No

Baseline production rate:	4,708	ton/month, average
	56,496	ton/year, average
Potential production rate:	170	ton/day, permitted maximum
	62,050	ton/year, computed maximum
Potential minus baseline:	**5,554**	**ton/year**

*Test reference number 2017-196ST

Based on the analysis, the Project did not constitute a major modification for PSD, and the difference between PAE and BAE is less than 50% of the threshold for a significant emissions increase.

Therefore, DAQ concludes that the Project was not a major modification for PSD. Furthermore, per 02D .0530(u), because the difference between PAE and BAE is less than 50% of the threshold for a significant emissions increase, no further monitoring, recordkeeping, or reporting is required with regards to the Project and PSD.

4.3.4 Modification and Reconstruction under NSPS

Background: Furnace A was constructed before the applicability date of NSPS Subpart CC (June 15, 1979) and has not been modified or reconstructed after that date. Therefore, Furnace A is not subject to NSPS Subpart CC. However, it is possible the Project constituted either modification or reconstruction under NSPS. If that were the case, then Furnace A would become subject to NSPS Subpart CC.

Reconstruction: Under NSPS, "reconstruction" is defined as:

> § 60.15 Reconstruction.
>
> (b) "Reconstruction" means the replacement of components of an existing facility to such an extent that:
>
> > (1) The fixed capital cost of the new components exceeds 50 percent of the fixed capital cost that would be required to construct a comparable entirely new facility…
>
> (c) "Fixed capital cost" means the capital needed to provide all the depreciable components.

Note that, when considering "reconstruction" in the context of NSPS Subpart CC, the cost of rebricking is excluded from the 50% limit (see §60.292(c)).

See Table 3 for a comparison of the project cost and replacement cost included in the original 502(b)(10) notification:

Table 3: Furnace A cost estimate

Item	Cost ($million)
Project total:	14.8
Rebricking:	7.4
Total replacement:	32-35
Project cost as a percent of total replacement	46%
Project cost as a percent of total replacement (excluding rebricking per §60.292(c)):	**23%**

DAQ concludes that, using the allowance for rebricking per §60.292(c), the Project did not meet the definition of NSPS reconstruction.

Modification: Under NSPS, "modification" is defined as:

> § 60.14 Modification.
>
> (a) Except as provided under paragraphs (e) and (f) of this section, any physical or operational change to an existing facility which results in an increase in the emission rate to the atmosphere of any pollutant to which a standard applies shall be considered a modification within the meaning of section 111 of the Act. Upon modification, an existing facility shall become an affected facility for each pollutant to which a standard applies and for which there is an increase in the emission rate to the atmosphere….
>
> (e) The following shall not, by themselves, be considered modifications under this part:
>
> > (1) Maintenance, repair, and replacement which the Administrator determines to be routine for a source category, subject to the provisions of… § 60.15.

The furnace rebuild project was certainly a physical change to an existing facility. However, per §60.15(e)(1), maintenance, repair, and replacement that is "routine" is not a modification for NSPS. NSPS does not offer a specific definition for §60.15(e)(1), but, given that rebricking is specifically addressed within NSPS Subpart CC, it is reasonable to conclude a glass furnace rebricking project is routine for the purposes of §60.14(e)(1). Furthermore, as discussed above, the Furnace A rebricking project did not exceed the cost threshold under §60.15.

DAQ concludes that, using the exemption for maintenance, repair, and replacement per §60.14(e)(1), the Project did not meet the definition of NSPS modification.

4.3.5 Reconstruction under NESHAP/MACT

Background: Furnace A is subject to MACT Subpart SSSSSS. Under that rule, a source is "new" if it commenced construction or reconstruction after September 20, 2007. Therefore, if the Project constituted reconstruction under MACT, Furnace A would be considered a "new" source under MACT Subpart SSSSSS.

Reconstruction: Under NESHAP/MACT, "reconstruction" is defined in §63.2:

> *Reconstruction*, unless otherwise defined in a relevant standard, means the replacement of components of an affected or a previously nonaffected source to such an extent that:
>
> (1) The fixed capital cost of the new components exceeds 50 percent of the fixed capital cost that would be required to construct a comparable new source;

This definition is similar to the definition of "reconstruction" under NSPS. Note that, unlike NSPS Subpart CC, MACT Subpart SSSSSS does not include any allowance for rebricking. Therefore, the entire project cost must be compared to the cost of a new source.

Based on Table 3, above, even without the allowance for rebricking, the Project cost is still less than 50% of the cost of a new source.

DAQ concludes that the Project did not meet the definition of MACT reconstruction.

4.4 Summary of Changes to the Existing Title V Permit

Page No.	Section	Description of Changes
Throughout	Throughout	• Updated dates and permit numbers. • Fixed formatting. Changes in formatting are only for clarity and consistency with DAQ's other Title V permits, and are not intended to impact the Permittee's compliance requirements.
4	1	• Removed references to 02Q .0501(b)(2) because the Permittee has submitted the required application for permit modification. • Corrected typo in description of ES-SS2 (was 9.345 cubic feet, should always have been 9,345)
7	2.1 A.1.b	• Updated this paragraph for clarity.
8	2.1 A.3.c	• Updated this paragraph to match DAQ's standard monitoring language for 02D .0521.
10-11	2.1 A.5	• Changed rule citations to 02Q .0508(f) because the Permittee has completed the two-step significant modification process. • Added noncompliance statements because this condition is now incorporated under 02Q .0500 (was 02Q .0300). • Removed references to $PM_{2.5}$ as requested by the Permittee and allowed by the T23 revision of this Title V permit.
	2.1 A.5.a	• Removed reference to $PM_{2.5}$ as requested by the Permittee.

Page No.	Section	Description of Changes
	2.1 A.5.b	• Updated this paragraph for clarity and to match the similar testing paragraph in Section 2.1 A.1.b. Note that this allows for the same five-year testing schedule provided that test results are less than 80% of the limit. • Clarified the requirement to submit an administrative amendment and/or application for minor modification based on the results of emission testing.
	2.1 A.5.d	• Updated NOx emission factor to 3.99 as requested by Permittee in application .22A. • Administratively updated PM emission factor to 1.00 based on the 2023 emission test and as requested by the Permittee (see Section 2.1 A.5.b.v.(A)).
n/a	2.1 A.6 (former)	• Removed this Section because 02Q .0504 no longer applies. The Permittee has satisfied the requirement to submit an application for significant modification.
14	2.1 B.2.c	• Updated this paragraph to match DAQ's standard monitoring language for 02D .0521.
16	2.2 A.2	• Added paragraph noting the date the Permittee has most recently submitted an air dispersion modeling demonstration.
17	3 (new)	• Created this Section. • Moved the list of Insignificant Activities to this Section. • Removed I-DE4 as requested by the Permittee.
18	4	• Created this Section. • Moved the General Conditions to this Section. • Updated the General Conditions to the most recent version (7.0).

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

5. Rules Review

Owns-Brockway is subject to the following State Implementation Plan (SIP) rules, in addition to the General Conditions:

- 15A NCAC 02D .0515 "Particulates from Miscellaneous Industrial Processes"
- 15A NCAC 02D .0516 "Sulfur Dioxide from Combustion Sources"
- 15A NCAC 02D .0521 "Control of Visible Emissions"
- 15A NCAC 02D .0524 "New Source Performance Standards"
- 15A NCAC 02D .1100 "Control of Toxic Air Pollutants" [State-enforceable only]
- 15A NCAC 02D .1111 "Maximum Achievable Control Technology"
- 15A NCAC 02D .1806 "Control and Prohibition of Odorous Emissions" [State-enforceable only]
- 15A NCAC 02Q .0317 "Avoidance Conditions" (PSD Avoidance)
- 15A NCAC 02Q .0504 "Option for Obtaining Construction and Operation Permit"

Owns-Brockway's applicability and compliance requirements for each of these rules are discussed in detail below.

5.1 15A NCAC 02D .0515 "Particulates from Miscellaneous Industrial Processes"

Applicability: This rule applies to emission sources that exhaust through a stack and are not subject to another particulate matter (PM) emission limit. Note that, when demonstrating compliance with this rule, facilities must perform emission testing using EPA Methods 5 *and* 202 (i.e., test for filterable and condensable PM). Therefore, rules that only apply to filterable PM are not considered for the purposes of this rule. Each source at this facility, excluding those listed below, is subject to this rule.

- The surface treatment system does not have a process rate in order to calculate *E*.
- The refiner and forehearth sections of the glass melting furnaces (*e.g.,* GF-A.RF) are not subject to this rule because they exhaust fugitively within the building (*i.e.,* they do not exhaust through a specific stack).[2]

Emission limit: The emission limit for this rule is calculated by the equations $E = 4.10 \times P^{0.67}$ (for $P \leq 30$) or $E = 55(P)^{0.11} - 40$, where E is the emission limit in pounds per hour and P is the process rate of the emission source measured in tons per hour. The equations are listed in the permit as an emission limit.

Compliance for glass furnaces: The glass furnaces are not equipped with add-on control devices. DAQ requires O-B to perform regular emission testing on the glass furnaces in order to demonstrate compliance with this rule. Testing is required annually unless the most recent test result is less than 80% of the limit, in which case testing is only required every five years.

Table 4 shows the most recent test results for each of the three furnaces.

[2] See DAQ's application review for Title V permit 01491T22 (issued March 21, 2018), page 6.

Table 4: Furnace PM_{tot} test results

Test Reference Number	Test Date	Furnace	Test Process Rate (ton / hr)	02D .0515 emission limit (lb $_{PM}$ / hr)	Test Result (lb $_{PMtot}$ / hr)	Percent of limit
2022-243ST	10/21/2022	A	5.75	13.2	5.73	43%
2022-098ST	5/24/2022	B	6.28	14.0	4.62	33%
2023-243ST	10/03/2023	C	11.04	20.5	11.02	54%

Compliance for other sources: The material handling processes (e.g., silos, batch mixers) at this facility are controlled by fabric filters. O-B must inspect and maintain the fabric filters.

Recordkeeping: O-B must keep records of

- Glass furnace emission test results.
- Process rates such that *P* can be determined.
- Control device maintenance and monitoring.

Reporting: O-B must submit a semiannual summary report.

Compliance: O-B appeared to be in compliance with this rule during the most recent compliance inspection. Continued compliance will be determined with subsequent inspections and reports.

Changes to the existing permit: The emission testing requirement for the glass furnaces will be updated for clarity. This update is not intended to affect the facility's compliance requirements.

5.2 15A NCAC 02D .0516 "Sulfur Dioxide from Combustion Sources"

Applicability: This rule applies to combustion sources that are not subject to an SO_2 emission limit under NSPS or MACT. The furnaces, refiners, and forehearths are subject to this rule.

Emission limit: In all cases, the emission limit is 2.3 pounds of SO_2 per million Btu of heat input.

Compliance for glass furnaces: SO_2 is expected to be emitted by the glass furnaces because the combustion fuel contains sulfur and the raw materials contain sulfur. Based on the sulfur content of the raw material, O-B estimates that glass production results in between 2 and 3 pounds of SO_2 per ton of glass produced.[3]

Using the factor of 3 pounds of SO_2 per ton of glass, the permitted glass throughput and heat input rates of the furnaces, refiners, and forehearths, the SO_2 emission rate can be calculated and compared to the SO_2 emission limit:

Table 5: Furnace SO_2 emission rates

Furnace + Refiner + Forehearth	Glass production rate		Combined heat input	Total SO_2 emission rate	
	(ton/day)	(ton/hr)	(MMBtu/hr)	(lb/hr)	(lb/MMBtu)
A	170	7.1	41.8	21.3	0.51

[3] See DAQ's application review for Title V permit 01491T22 (issued March 18, 2018), page 6.

Furnace + Refiner + Forehearth	Glass production rate		Combined heat input	Total SO_2 emission rate	
	(ton/day)	(ton/hr)	(MMBtu/hr)	(lb/hr)	(lb/MMBtu)
B	175	7.3	42.1	21.9	0.52
C	300	12.5	67.7	37.6	0.55

Monitoring, Recordkeeping, and Reporting: O-B is required to calculate the average SO_2 emission rate for each batch formulation, and submit a semiannual summary report.

Compliance: O-B appeared to be in compliance with this rule during the most recent compliance inspection. Continued compliance will be determined with subsequent inspections and reports.

5.3 15A NCAC 02D .0521 "Control of Visible Emissions"

Applicability: This rule applies to sources of visible emissions (VE) that are not subject to another VE standard under 02D .0500. Generally, this rule is not applied to sources that are not expected to create any VE (*e.g.*, from a storage tank). Each source at this facility is subject to this rule.

Emission limits: The VE limit for this rule depends on the construction date of the individual source in question. For each source at this facility, the VE limit is 20%.

Monitoring and recordkeeping: O-B must conduct regular VE observations on all emission points for VE above normal. If VE above normal is detected, O-B must take corrective actions or conduct a Method 9 test to determine that an exceedance of the VE standard has not occurred.

Reporting: O-B must submit a semiannual summary report.

Compliance: O-B appeared to be in compliance with this rule during the most recent compliance inspection. Continued compliance will be determined with subsequent inspections and reports.

5.4 15A NCAC 02D .0524 "New Source Performance Standards" (NSPS)

This rule incorporates the NSPS rules (40 CFR Part 60) into North Carolina's SIP. See Section 6.1 for a discussion of NSPS rules that apply to this facility.

Insignificant activities: At this facility, the NSPS rules and 02D .0524 only apply to emission sources included in the list of insignificant activities. In general, insignificant activities are not referenced in the specific conditions of a Title V permit. Therefore, although the facility is subject to this rule, the permit does not include a specific condition for this rule.

5.5 15A NCAC 02D .1100 "Control of Toxic Air Pollutants" [State-enforceable Only]

Background: O-B has previously performed air dispersion modeling in order to demonstrate compliance with the acceptable ambient limits (AAL) for the toxic air pollutants (TAP) listed in 02D .1104. The modeled emission rates are listed in the Title V permit as emission limits.

Monitoring and recordkeeping: O-B must maintain records on-site that demonstrate compliance with each of the modeled TAP emission rates.

Reporting: No reporting is required.

Compliance: Based on the most recent inspection report, O-B appears to be in compliance with this rule. Continued compliance will be determined with subsequent inspections. See Section 7 for additional discussion of O-B's requirements for TAP emissions.

Changes to the existing permit: The permit will be updated to include the following paragraph. DAQ has determined that this paragraph is necessary for permits that include emission limits based on modeling demonstrations.

2.2 A.2:

The Permittee has submitted a toxic air pollutant dispersion modeling analysis dated January 14, 2005 for the facility's toxic air pollutant emissions as listed in the above table. The modeling analysis was reviewed and approved by the AQAB on July 15, 2005. Placement of the emission sources, configuration of the emission points, and operation of the sources shall be in accordance with the submitted dispersion modeling analysis and should reflect any changes from the original analysis submittal as outlined in the AQAB review memo.

5.6 15A NCAC 02D .1111 "Maximum Achievable Control Technology" (MACT)

This rule incorporates the MACT rules (40 CFR Part 63) into North Carolina's SIP. See Section 6.3 for a discussion of MACT rules that apply to this facility.

5.7 15A NCAC 02D .1806 "Control and Prohibition of Odorous Emissions" [state-enforceable only]

Applicability: This rule applies to facilities that emit, or could potentially emit, odorous emissions. The existing permit includes a specific condition for this rule.

Monitoring, recordkeeping, and reporting: The existing permit does not require any monitoring, recordkeeping, or reporting for this rule.

Compliance: Based on the most recent inspection report, O-B appears to be in compliance with this rule. Continued compliance will be determined with subsequent inspections.

5.8 15A NCAC 02Q .0317 "Avoidance Conditions" (Avoidance of 15A NCAC 02D .0530 "Prevention of Significant Deterioration"; PSD Avoidance)

Applicability: A facility may accept an enforceable emission limit or operating limit in order to avoid the applicability of specific rules (see 02Q .0317(a)). O-B has previously accepted emission limits in order to avoid triggering a significant modification under 15A NCAC 02D .0530.

Emission limits: In order to avoid triggering a PSD significant modification, the facility must ensure that emissions from Furnace C are less than:

- 337.4 tpy NOx
- 48.1 tpy $PM_{2.5}$ – or – 51.25 tpy PM

In addition, O-B must produce less than 109,800 tons of glass pulled per year. These limits were included in the permit with the T23 permit revision. DAQ's review of the T23 permit revision is included here as Attachment 1.

Compliance: The existing permit requires O-B to perform emission testing for NOx and either $PM_{2.5}$ or PM. Once O-B chooses between PM or $PM_{2.5}$, references to the other pollutant will be removed (see Specific Condition 2.1 A.5.b.iv of the existing permit).

According to the application, O-B performed testing for PM. Therefore, references to $PM_{2.5}$ will be removed from the permit. O-B will continue to test for, and demonstrate compliance with, the PM emission limit.

When demonstrating compliance with the NOx and PM limits, O-B will use site-specific emission factors developed by emission testing. In the application for permit renewal, O-B submitted updated emission factors based on testing performed in 2021:

Table 6: PSD avoidance limit comparison based on 2021 stack test

Pollutant	Emission Factor (pounds of pollutant per ton of glass pulled)	Annual Emissions (Based on CY2020 Emission Inventory reported throughput, 78,539 ton/yr) (tpy)	% of PSD Avoidance Limit
NOx	3.99	156.7	46%
PM	0.48	18.8	37%

Since submitting the application for permit renewal, O-B has performed additional testing on Furnace C as required by the existing permit.

Table 7: PSD avoidance limit comparison based on 2023 stack test

Pollutant	Emission Factor (pounds of pollutant per ton of glass pulled)	Annual Emissions (Based on CY2022 Emission Inventory reported throughput, 77,412 ton/yr) (tpy)	% of PSD Avoidance Limit
NOx	3.57	138.2	41%
PM	1.00	38.7	76%

Updating emission factors: After conducting an emission test on Furnace C, for each pollutant, the existing permit allows O-B to update the emission factors in the permit to reflect the most recent test.

- If the test shows an emission factor higher than the one in the existing permit, O-B must submit a request to administratively amend the permit to include the higher factor.

- If the test shows an emission factor lower than the one in the existing permit, O-B may submit an application for minor modification to include the lower factor.

O-B has submitted a request to administratively amend the permit to include the PM emission factor from the 2023 stack test (1.00 lb/ton) in the permit. As part of the application for renewal (with modification), O-B requested that the permit include the NOx emission factor from the 2021 stack test (3.99 lb/ton). O-B did not submit an application for minor modification to include the lower NOx emission factor from the 2023 test (3.57 lb/ton), so DAQ will not incorporate that specific test result into the permit.

Monitoring, recordkeeping, and reporting: O-B must use the site-specific emission factors to calculate emissions of NOx and PM. O-B must submit a semiannual summary report of the NOx and PM emissions.

Compliance: O-B appeared to be in compliance with this rule during the most recent compliance inspection. Continued compliance will be determined with subsequent inspections and reports.

Changes to the existing permit:

- As stated above, references to $PM_{2.5}$ will be removed from the PSD avoidance condition.

- The existing permit includes emission testing to demonstrate compliance with this rule. The testing requirement will be updated to require annual retesting, except when the results of an emission test are less than 80% of the limit, in which case retesting is required within five years. This is the same approach used for the furnaces to demonstrate compliance with 02D .0515. Based on Table 7, O-B must test again within 5 years of the 2023 stack test.

- The emission factors in the permit will be updated to reflect the NOx emission factor from the 2021 test and the PM emission factor from the 2023 test.

5.9 15A NCAC 02Q .0504 "Option for Obtaining Construction and Operation Permit" [not applicable]

Background: A facility may choose to make a significant modification to a Title V permit using a "two-step" process as allowed by 15A NCAC 02Q .0501(b)(2) or (c)(2). When a facility uses the two-step process, the facility must submit a second permit application within 12 months of commencing operation of the modified sources.

Applicability: O-B used the two-step process to allow for upgrades and refurbishment of glass furnace GF-C.FURN (application .21A). DAQ approved the application and issued Title V permit 01491T23. As a result, O-B was required to submit a 2nd application within 12 months of completing the upgrade/refurbishment project on GF-C.FURN (see Specific Condition 2.1 A.6 of the existing permit). The application does not request any modifications to the existing permit. DAQ's review of application .21A and permit T23 are included here as an Attachment.

Compliance: According to DAQ's most recent inspection report, O-B was required to submit the 2nd-step application no later than August 24, 2022. O-B postmarked the required application on August 18, 2022, and therefore complied with the submittal requirement.

Changes to the existing permit: Now that O-B has completed the 2nd-step submittal requirement, this requirement can be removed from the permit. The new permit will not include a specific condition for 02Q .0504.

6. NSPS (40 CFR Part 60), NESHAP (40 CFR Part 61), MACT (40 CFR Part 63), CAM (40 CFR Part 64), PSD (15A NCAC 02D .0530), and §112(r)

6.1 New Source Performance Standards (NSPS; 40 CFR Part 60)

6.1.1 NSPS Subpart CC "Standards of Performance for Glass Manufacturing Plants" [not applicable]

Applicability: This rule applies to glass melting furnaces that commenced construction or modification after June 15, 1979. The furnaces A, B, and C were constructed before this date and have not been modified (as defined in §60.14) or reconstructed (as defined in §60.15) since that date. Therefore, each furnace is considered "existing" and therefore not subject to this rule.

Furnace A rebricking project: In 2020, O-B completed a project to rebrick Furnace A. Such a project could meet the definition of "reconstruction" or "modification" under NSPS. However, as discussed in Section 4.3.4, the rebricking project did not meet either definition, and therefore applicability to NSPS Subpart CC was not affected.

6.1.2 NSPS Subpart IIII "Standards of Performance for Stationary Compression Ignition Internal Combustion Engines"

Applicability: This rule applies to stationary compression ignition internal combustion engines (CI ICE) constructed or modified after the applicability dates in 40 CFR 60.4200(a)(2). For the purposes of this rule, each engine at this facility is an emergency-use CI ICE. Each CI ICE at this facility, except I-EG, is subject to this rule.

Emission standards: Emergency CI engines subject to this rule must be certified to meet the applicable emission standards in 40 CFR 60.4205(b).

Fuel requirements: Diesel fuel must meet the sulfur requirements in 40 CFR 1090.305 (a.k.a. ultra-low sulfur diesel).

Monitoring requirements: O-B must install a non-resettable hour meter on each subject emergency engine. The engines must only be operated such that they meet the definition of emergency engine (e.g., not operated as a peak shaving engine).

Compliance requirements: The engines must be operated with good work practices and according to the manufacturer's instructions. To be designated as an emergency engine, the engine can operate for non-emergency purposes (*e.g.,* maintenance testing) for less than 100 hours per year. Up to 50 of those hours can be for non-emergency use, except for peak-shaving (with rare exceptions).

Compliance: Based on the most recent inspection report, O-B appears to be in compliance with this rule. Continued compliance will be determined with subsequent inspections and reports.

Insignificant activities: This rule only applies to emission sources included in the list of insignificant activities per 15A NCAC 02Q .0503(8). Such sources are not referenced elsewhere in the Title V permit. Because this rule only applies to insignificant activities, the Title V permit does not include a specific condition for this rule.

6.2 National Emission Standards for Hazardous Air Pollutants (NESHAP; 40 CFR Part 61)

6.2.1 NESHAP Subpart N "National Emission Standard for Inorganic Arsenic Emissions From Glass Manufacturing Plants" [not applicable]

Applicability: This rule applies to glass furnaces that use commercial arsenic as a raw material. O-B does not use arsenic as a raw ingredient, and therefore this rule does not apply.

6.3 Maximum Achievable Control Technology (MACT; 40 CFR Part 63)

6.3.1 Major Source Status

O-B is not a major source of hazardous air pollutants (HAP) because it does not have potential emissions of HAP greater than the thresholds listed in the definition of "major source" in 40 CFR 63.2. Because this facility is not a major source of HAP, rules that apply exclusively to major sources of HAP (such as Subpart DDDDD) categorically do not apply to this facility.

6.3.2 MACT Subpart ZZZZ "National Emissions Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines"

Applicability: This rule applies to all stationary reciprocating internal combustion engines (RICE). Each engine at this facility is subject to this rule. The rule has different requirements for engines based on the status of the facility (major or minor source of HAP), use of the engine (emergency, nonemergency, etc.), age of the engine, and size of the engine.

RICE with limited requirements: Under this rule, there are several categories of RICE that do not have to meet the requirements of the rule or of Subpart A (although in some cases, the RICE must submit an initial notification). A new or reconstructed emergency RICE with capacity less than 500 horsepower at a major source of HAP. Note that these engines demonstrate compliance with this rule by demonstrating compliance with NSPS Subpart IIII (see 40 CFR 63.6590(c)(6)). This category covers each emergency engine at this facility except I-EG.

Requirements: For the emergency generator I-EG, O-B must:

- Install a non-resettable hour meter
- Reduce periods of idle and startup
- Regular oil changes and other maintenance
- Operate only as allowed to meet the definition of emergency engines

Recordkeeping: O-B must keep records of engine operation and maintenance activities.

Reporting: O-B must submit a semiannual summary report.

Compliance: Based on the most recent inspection report, O-B appears to be in compliance with this rule. Continued compliance will be determined with subsequent inspections and reports.

Insignificant activities: This rule only applies to emission sources included in the list of insignificant activities per 15A NCAC 02Q .0503(8). Such sources are not referenced elsewhere in the Title V permit. Because this rule only applies to insignificant activities, the Title V permit does not include a specific condition for this rule.

6.3.3 MACT Subpart SSSSSS "National Emission Standards for Hazardous Air Pollutants for Glass Manufacturing Area Sources"

Applicability: This rule applies to glass manufacturing facilities that use a continuous furnace that makes glass containers using raw materials that contain glass manufacturing metal HAP (defined in the rule, "glass HAP"). Furnaces A and B are subject to this rule. Furnace C is not subject to this rule because the raw materials used do not meet the definition.

Rule history: This rule was promulgated December 26, 2007 (see 72 FR 73201) and has not been meaningfully updated since that date.

Compliance date: Per §63.11450(d), when a furnace switches raw materials such that it begins using materials with glass HAP, the facility must demonstrate compliance with Subpart SSSSSS within 2 years of the switch. The existing permit includes the initial compliance dates for Furnaces A and B based on this requirement.

Note that O-B is not currently using glass HAP material in Furnace B, and had ceased using such materials before the compliance date listed in the existing permit. DAQ has previously determined that O-B must perform emission testing if glass HAP is reintroduced to the furnace in the future:

> "The current permit includes a permit condition that requires a performance test within 180 days upon the reintroduction of the glass product that contains glass manufacturing metal HAP into the furnace. In this manner, the facility will not be required to introduce the HAP material into its process arbitrarily to conduct the required source test."[4]

Emission limit: The limits for this rule are the same for both new and existing units. The limit is either 0.1 grams of PM per kilogram of glass produced, or 0.01 grams of glass HAP per kilogram of glass produced. O-B performed emission testing for Furnace A which showed a chromium emission rate of 0.0033 g/kg[5] and has not yet performed testing on Furnace B.

Monitoring: The monitoring requirements for new and existing sources (see §63.11454) are written for furnaces that use control devices (a fabric filter, an ESP, or another type of control) to comply with the emission limit. O-B has demonstrate compliance with the emission limit without using a control device.

Demonstrating compliance: For furnaces that comply with the emission limit without a control device, the rule only requires recordkeeping (see §63.11455(e)).

Recordkeeping: The facility must keep records of notifications and furnace maintenance.

Reporting: O-B must submit a semiannual summary report

Compliance: During DAQ's most recent inspection, O-B appeared to be in compliance with this rule. Continued compliance will be determined during subsequent inspections and reports.

6.4 Compliance Assurance Monitoring (CAM; 40 CFR Part 64)

The compliance assurance monitoring (CAM) rule requires owners and operators to conduct monitoring to provide a reasonable assurance of compliance with applicable requirements under the act. Per 02D .0614(a),

[4] See note 3.
[5] Stack test reference number 2020-269ST.

this rule potentially applies to any facility required to obtain a permit under 02Q .0500 (i.e., a Title V permit). This facility is required to obtain a permit under 02Q .0500. Therefore, CAM applicability must be examined.

Monitoring focuses on emissions units that rely on pollution control device equipment to achieve compliance with applicable standards. An emission unit is subject to CAM, under 40 CFR Part 64, if all of the following four conditions are met:

I. The unit is subject to any (non-exempt, e.g., pre-November 15, 1990, Section 111 or 112 standard) emission limitation or standard for the applicable regulated pollutant.
II. The unit uses any control device to achieve compliance with any such emission limitation or standard.
III. The unit's pre-control potential emission rate exceeds 100 percent of the amount required for a source to be classified as a major source, i.e., either 100 tpy (for criteria pollutants) or 10 tpy of any individual/25 tpy of any combination of HAP.

O-B included a CAM analysis with the renewal application. Based on the analysis, CAM does not apply to any emission source at this facility because no emission source with a control device has pre-controlled potential emissions greater than the major source threshold. DAQ agrees with O-B's analysis; the analysis is included here as Attachment 2.

6.5 Prevention of Significant Deterioration (PSD)

Background: Broadly, the PSD rules are listed in 40 CFR 51.166 and are incorporated into North Carolina's State Implementation Plan (SIP) under 15A NCAC 02D .0530 and .0544. Facilities that are designated "major stationary sources" must comply with the requirements of PSD. O-B has previously been designated as a major stationary source for PSD because the facility has actual emissions of a regulated NSR pollutant greater than the threshold in 40 CFR 51.166(b)(1)(i)(*b*).

Existing PSD requirements: The existing permit does not include any specific requirements for PSD.

Existing PSD avoidance requirements: In general, any modification at a PSD major stationary source is a major modification if the increase in emissions from that modification are equal to or greater than the "significant" threshold in 40 CFR 51.166(b)(23)(i).

As part of the T23 permit revision, O-B modified the C furnace melter. O-B showed that, provided the C furnace melter emitted less than 337.4 tpy of NOx and 51.25 tpy of PM, the modification to the C furnace melter was not a major modification for PSD. See Section 5.8 for a discussion of O-B's compliance requirements for PSD Avoidance. See Attachment 1 for DAQ's review of the T23 permit revision.

Major modifications under PSD: In 2020, O-B completed a furnace rebuilding project on Furnace A. Such a project could potentially be a major modification. However, as discussed in Section 4.3.3, O-B has demonstrated that the furnace rebuild project was not a major modification using the "actual-to-projected-actual applicability test" allowed by 40 CFR 51.166(a)(7)(iv)(*c*).

6.6 Section 112(r) of the Clean Air Act (and 15A NCAC 02D .2100 "Risk Management Program")

This rule requires facilities that store materials above the threshold quantities in 40 CFR 68.130 above their respective thresholds to prepare and submit a risk management plan (RMP).

In the renewal application on Form A3, O-B indicated that an RMP is not required for this facility because the facility "does not store more than threshold quantities of regulated substances." Therefore, O-B does not have any increased requirements under §112(r). Note that other parts of that rule, such as the General Duty clause, may still apply to this facility; those portions of §112(r) are beyond the scope of the Title V permit.

7. North Carolina Toxic Air Pollutants

Applicability: The rules for toxic air pollutants under 15A NCAC 02D .1100 and 02Q .0700 apply to facilities that emit toxic air pollutants. In general, if a facility would emit a TAP at rates greater than the TAP permitting emission rates (TPER) listed in 02Q .0711, the facility must first conduct an air dispersion modeling demonstration under to demonstrate compliance with the acceptable ambient limits (AAL) in 15A NCAC 02D .1104 and .1106. Several types of sources are exempt from TAP requirements; exempt sources are listed in 02Q .0702.

Modeled emission rates: O-B has previously performed air dispersion modeling in order to demonstrate compliance with the AALs for chromium IV (Cr (IV)), cadmium (Cd), and hydrogen chloride (HCl). The modeled emission rates are included in the permit as emission limits. The modeled emission rates were first included in the permit as part of the T18 permit revision (issued July 27, 2005).

Compliance: O-B must keep records of production and material usage such that compliance with modeled emission rates can be demonstrated. The permit does not require any reporting.

Table 8 compares the facility-wide reported emissions of each modeled pollutant to the modeled emission limit.

Table 8: TAP emission rate comparison

Pollutant	Limit	CY2022 facility-wide reported emissions*
HCl	1.05 lb/hr from ES-HST (9,198 lb/yr)	2,237 lb/yr
Cr (IV)	2.261 lb/yr (from furnaces A, B, and C)	0**
Cd	146.83 lb/yr (from furnaces A, B, and C)	34.3 lb/yr

* Data submitted by O-B for the annual Emissions Inventory. The Emission Inventory indicated 24/7 operation (i.e., 8,760 hours of operation per year).
** Note that O-B reported chromium emissions, but none of the Cr (VI) variety.

8. Compliance Status and Other Regulatory Concerns

Compliance status:

- This facility was most recently inspected on Andrew Kormos on December 8, 2022. O-B appeared to be in compliance with the existing permit at that time.

- In the application for permit renewal, O-B included Form E5 "Title V Compliance Certification" which was signed by the facility's responsible official at the time of submittal. On that form, O-B indicated the facility was "in compliance with all applicable requirements."

- Since the previous Title V permit renewal, O-B has been issued the following Notices of Violation:

Date	Issues Noted	Outcome
August 8, 2019	The facility failed to submit a required report (semiannual report for 02D .0516).	Resolved as of August 26, 2019.
December 20, 2019	The facility operated an emergency-use engine for non-emergency purposes longer than allowed under 40 CFR Part 63 Subpart ZZZZ	Resolved as of February 7, 2020.
October 30, 2020	The facility failed to submit an application for significant modification as required by the current permit and 02D .0530(u).	DAQ sent a notice of continuing violation on February 11, 2021 (see next entry).
February 11, 2021	DAQ sent a notice of continuing violation regarding the October 30 NOV.	O-B submitted the required application. All issues were considered resolved as of April 9, 2021.
March 20, 2024	The facility submitted a late Annual Compliance Certification (ACC).	Resolved as of April 1, 2024.

Application fee: An application fee is required for DAQ to process certain kinds of applications.

- Applications for renewal do not require an application fee.

- Applications for the 2nd step of a 2-step significant modification require a processing fee if the associated 1st step was submitted before November 18, 2021. The T21 permit revision was a 1st step application, and the associated application was received before November 18, 2021. Therefore, the associated 2nd step application requires an application fee. O-B included the 2nd step application with the application for Title V renewal., and therefore O-B was required to pay an application fee of $1,002.

- 502(b)(10) notifications do not require an application fee.

PE Seal: Pursuant to 15A NCAC 02Q .0112 "Application requiring a Professional Engineering Seal," a professional engineer's seal (PE seal) is required to seal technical portions of air permit applications for new sources and modifications of existing sources as defined in 15A NCAC 02Q .0103 that involve the criteria in 02Q .0112(a)(1)-(3).

- Applications for renewal do not require a PE seal.

- For the 2-step significant modification process, the need for a PE seal was addressed as part of the 1st step.

- 502(b)(10) notifications generally do not require a PE seal.

Zoning: A Zoning Consistency Determination per 15A NCAC 02Q .0507(d) was not required for this modification because there is no expansion of the existing facility.

Removal of References to Affirmative Defense: 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.[6] Moreover, per EPA, the removal of these provisions is also consistent with other recent EPA actions involving affirmative defenses[7] 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.

DAQ 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 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.

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

[7] 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).

9. Facility Emissions Review

Title V: O-B is a major source for Title V (as defined in 40 CFR 70.2) because it has actual emissions of regulated pollutants greater than 100 tpy. This permit renewal will not affect O-B's status as a major source for Title V.

HAP: O-B is an area source of HAP (as defined in 40 CFR 63.2) because it does not have potential emissions of HAP greater than the major source threshold. This permit renewal will not affect O-B's status as an area source of HAP.

PSD: O-B is a major stationary source for PSD because it has potential emissions of regulated NSR pollutants greater than the thresholds in 40 CFR 51.166(b)(1)(i)(*b*). Note that O-B is not a "glass fiber processing plant," which is a specifically listed source category in 40 CFR 51.166(b)(1)(i)(*a*). This permit renewal will not affect O-B's status as a major stationary source for PSD.

10. Draft Permit Review Summary, Public Notice, and EPA Review

Initial draft: An initial draft of the Title V permit and this application review were sent to DAQ Permits staff on May 10, 2024. Comments were received in-person on May 16, 2024. The comments pointed out typos and corrections in the draft permit and application review.

Revised draft: A revised draft of the Title V permit and this application review were sent to DAQ SSCB staff, DAQ WSRO staff, and O-B staff on May 20, 2024. No responses were received from DAQ SSCB and DAQ WSRO staff. O-B staff responded by voicemail on May 30, 2024:

O-B Comment 1:	The authorized official on the permit should be Andrew Wolfe.
O-B Comment 2:	Section 2.1 A.3 and 2.1 B.2 include a reference to weekly VE monitoring. These should be daily and monthly, respectively.
DAQ Response:	These issues will be corrected.

Public Notice and EPA 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 .0518(b), the EPA will have a 45-day review period. Based on an agreement between DAQ and EPA, this period will generally coincide with the 30-day public notice 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 is provided to the public under 02Q .0521 above. DAQ voluntarily provides notice to each bordering State (Virginia, Tennessee, Georgia, and South Carolina).

- The Public Notice and EPA Review periods began on XXXX
- The Public Notice period ended on XXXX
- The EPA Review period ended on XXXX

11. Recommendations

This permit application has been reviewed by DAQ to determine compliance with all procedures and requirements. DAQ has determined that this facility appears to be complying with all applicable requirements.

DAQ recommends issuance of Permit No. 01491T24. WSRO, SSCB, and O-B have received a copy of this permit and submitted comments that were incorporated as described in Section 10.

Attachment 1 to Review of Applications 2900106.22A & .20A
Review of Application 2900106.21A and Title V Permit 01491T23

The following application review was signed by Joeseph Voelker (Engineer, DAQ) on August 24, 2021.
(pages numbers in this attachment may differ from the original document due to formatting changes)

NORTH CAROLINA DIVISION OF
AIR QUALITY

Application Review

Issue Date: **August 24, 2021**

Region: Winston-Salem Regional Office
County: Davidson
NC Facility ID: 2900106
Inspector's Name: Jim Hafner
Date of Last Inspection: 01/19/2021
Compliance Code: 3 / Compliance - inspection

Facility Data

Applicant (Facility's Name): Owens-Brockway Glass Container Inc.

Facility Address:
Owens-Brockway Glass Container Inc.
9698 Old US Highway 52 South
Lexington, NC 27295

SIC: 3221 / Glass Containers
NAICS: 327213 / Glass Container Manufacturing

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

Permit Applicability (this application only)

SIP: 02Q .0317, .0504, 02D .0530
NSPS: NA
NESHAP: NA
PSD: NA
PSD Avoidance: Yes, NOx and PM2.5
NC Toxics: NA
112(r): NA
Other:

Contact Data

Facility Contact	Authorized Contact	Technical Contact
Greg Dellinger EHS Manager (567) 336-3906 9698 Old US Highway 52 South Lexington, NC 27295	Dennis Benjamin Plant Engineer (567) 336-3930 9698 Old U.S. Highway 52 South Lexington, NC 27295	Greg Dellinger EHS Manager (567) 336-3906 9698 Old US Highway 52 South Lexington, NC 27295

Application Data

Application Number: 2900106.21A
Date Received: 04/08/2021
Application Type: Modification
Application Schedule: TV-Sign-501(b)(2) Part I
Existing Permit Data
Existing Permit Number: 01491/T22
Existing Permit Issue Date: 03/21/2018
Existing Permit Expiration Date: 02/28/2023

Total Actual emissions in TONS/YEAR:

CY	SO2	NOX	VOC	CO	PM10	Total HAP	Largest HAP
2019	242.50	598.92	25.55	3.40	97.62	2.42	1.17 [Hydrogen chloride (hydrochlori]
2018	288.74	435.27	13.75	4.30	76.55	3.46	1.93 [Hydrogen chloride (hydrochlori]
2017	286.60	431.40	10.30	3.73	78.10	2.74	1.27 [Hydrogen chloride (hydrochlori]
2016	285.29	429.62	10.90	3.86	81.00	2.82	1.37 [Hydrogen chloride (hydrochlori]
2015	254.94	384.49	11.42	3.88	74.50	2.80	1.62 [Hydrogen chloride (hydrochlori]

Review Engineer: Joseph Voelker

Review Engineer's Signature: Date: August 24, 2021

[signed on Permit Issue Date]

Comments / Recommendations:
Issue 01491/T23
Permit Issue Date: 08/24/2021
Permit Expiration Date: 02/28/2023

I. Introduction and Purpose of Application

Owens-Brockway Glass Container Plt 6 (Owens) produces container glass (beer bottles). The purpose of this application is to add a PSD avoidance condition to address a violation of Section 2.1 A.5.d of the current permit.

This permit application will be processed in a two-step fashion pursuant to 15A NCAC 02Q .0504 as allowed pursuant to 02Q .0501(b)(2). This application (part one) will be processed under the state permitting rules (15A NCAC 02Q .0300) .The permittee shall then have one year from the date of permit issuance to file an amended application (part two) following the procedures under the Title V permitting rules (15A NCAC 02Q .0500).

II. Chronology

Date	Description
04/08/2015	Permit T21 issued . The permit required monitoring recordkeeping and reporting pursuant to 02D .0530(u) for the "furnace C project."
10/30/2020	A Notice of violation was issued for failure to submit permit application as required pursuant to Section 2.1 A.5.d.
02/11/2021	A Notice of Continuing Violation was issued for failure to submit a permit application as required pursuant to Section 2.1 A.5.d.
04/08/2021	Application was received and assigned application no. 2900106.21A.
04/14/2021	An ADD INFO email was sent requesting completed forms and clarification with regard to the emissions estimates for the sources associated with the "Furnace C project."
04/28/2021	Information requested on 04/14/2021 received via email. Information include a spreadsheet with detailed emissions estimations which served as the basis for the PSD avoidance conditions to be contained in the revised permit.
05/26/2021	Draft permit was sent to Permittee for review.
06/04/2021	Phone call to discuss the draft occurred with the Permittee (Dennis Buenger, Greg Dellinger) and their consultant (Gary Saini). Concern was raised by the Permittee regarding PM2.5 testing and requested using PM (total) as a surrogate. See discussion in section IV.
06/08/2021	An ADD INFO email was sent summarizing our discussion on 06/04/2021.
07/22/2021	A revised draft was sent to the Permittee.
08/19/2021	An email was received from the Permittee stating: "I have reviewed the version of the draft permit you sent on 7/22 and do not see any necessary revisions. Please proceed with issuing the permit."

III. Modification Description

Background

Permit T21, issued on April 08, 2015, contained the following permit condition at Section 2.1 A.6 to address the "furnace C rebuild project." The application was processed under the state permitting rules (02Q .0300) pursuant to 02Q .0504 as allowed pursuant to 02Q .0501(c)(2) (The rule has been revised since that time and the citation is now the current 02Q .0501(b)(2)).

6. 15A NCAC 2D .0530(u): USE OF PROJECTED ACTUAL EMISSIONS TO AVOID APPLICABILITY OF REQUIREMENTS OF PSD

a. The Permittee has used projected actual emissions to avoid applicability of prevention of significant deterioration requirements pursuant to application 2900106.14A for the furnace rebuild project consisting of the "C" Furnace (ID No. GF-C.Furn), sand silos (ID Nos. ES-SS1 and ES-SS2), mix batch bins (ID Nos. ES-MBCE and ES-MBCW), batch house fugitives (ID No. ES-BH), mix batch elevator (ID No. ES-MBE), mold lubrication (ID No. ES-ML), MBTT hot end surface treatment (ID No. ES-HST), "C" refiner and forehearths (ID No. GF-C.RF), and lehrs ("C" Furnace production) (ID Nos. I-L3 and I-L4). In order to verify the assumptions used in the projected actual emissions calculations, the Permittee shall comply with the requirements in Section 2.1 A.6.b. below.

Monitoring/Recordkeeping/Reporting *[15A NCAC 2D .0530(u) and 2Q .0308]*

b. The Permittee shall perform the following:

i. The Permittee shall maintain records of annual emissions in tons per year, on a calendar year basis related to the Furnace "C" rebuild project, for five years following resumption of regular operations after the change is made.

ii. The Permittee shall submit a report to the director within 60 days after the end of each calendar year during which these records must be generated. The report shall contain the items listed in 40 CFR 51.166(r)(6)(v)(a-c).

iii. The Permittee shall make the information documented and maintained under this condition available to the Director or the general public pursuant to the requirements in 40 CFR 70.4(b)(3)(viii).

iv. The reported actual emissions (post-construction emissions) for each of the five calendar years will be compared to the projected actual emissions (pre-construction projection) as included below:

Pollutant	• ***Projected Actual Emissions* (tons per year)***
NOx	*301.95*
SO_2	*118.58*
PM	*52.74*
PM_{10}	*50.59*
$PM_{2.5}$	*39.02*

* *These projections are not enforceable limitations. If projected emissions are exceeded, consistent with 15A NCAC 2D .0530, the permit shall include in its annual report an explanation as to why the actual rates exceeded the projection.*

On March 24, 2016, the Title V application (part two) for the "furnace C rebuild project" was submitted concurrently with the renewal application. The following is an excerpt from that review.

The Permittee relied upon AP-42 emission factors and test data over 20 years old to show that the projected actual emissions for the project would be less than the significance thresholds to trigger PSD. Generally, with glass furnaces the pollutants of concern are PM/PM10/PM2.5, NOx, SO2 and H2SO4. Based on the uncertainty associated with the data used in the analysis and to establish realistic estimates of the source's actual emissions, a testing requirement will be added to the permit for these pollutants to justify the conclusion that PSD will not be triggered as a result of this modification.

In the current permit condition, the projected actual emissions table are the emissions associated solely with the furnace melter (ID No. GF-C.FURN). The permit will be clarified to state that the emissions of the melter shall be compared against this table. Additionally, the regulatory reference to 15A NCAC 02Q .0308 will be revised to 15A NCAC 02Q .0508(f) to reflect the permitting requirements under the TV program.

As a result of permit condition renumbering, Section 2.1 A.6 became 2.1 A.5 in permit no. T22. As a result of the above-described concern for the uncertainty of the emissions data, the following paragraph (d) was added.

> *d. Under the provisions of NCGS 143-215.108, the Permittee shall conduct source testing of the furnace melter (ID No. GF-C.FURN) for total PM, PM_{10}, $PM_{2.5}$, NOx, SO_2 and H_2SO_4 in accordance with a testing protocol approved by the DAQ. The results of each test shall be used to derive emission factors in pounds of pollutant per ton of glass produced (and pounds per million Btu for SO_2).*
> *Initial testing shall be conducted within 90 days after issuance of permit no. 01491T22, unless an alternate date is approved by the DAQ.*
> *If the results of this test indicate emission factors greater than the ones used in the projected actual emissions calculations for application no. 2900106.14A, the Permittee shall resubmit an application to demonstrate compliance with 15A NCAC 02D .0530.*

The permit was subjected to public notice/EPA review procedures and was issued without comment as Permit No. T22 on March 31, 2018.

To comply with the testing requirement, the Permittee used testing conducted June 28, 2017, which was approved via memo by the AQAB on June 08, 2018. Note that this test was conducted prior to permit issuance. This was deemed acceptable as the testing satisfied the intent of the testing condition; that is, to determine the emissions of the furnace after the modification. However, the results of the testing resulted in emission factors much larger than anticipated with application no. 14A. The Permittee however did not submit the application as required by Section 2.1 A.5(d).

The Permittee has maintained that the 2017 testing was not representative of the source's normal operation. However, during repeated conversations and information exchanges, the Permittee could not justify to the DAQ that the emission factors derived from the 2017 emissions testing should not be used to estimate the emissions of the source for the periods of time in which the furnace was operating in the same operating scenarios as the scenario in which the 2017 testing was conducted. When these emission factors were used to estimate annual emissions in 2017, 2018 and 2019, the facility appeared to have exceeded the PSD major modification thresholds of 40 tpy for NOx and of 10 tpy for PM2.5 for each year.

The Permittee eventually retested the furnace in January 2020 and the test was approved by the SSCB via memo issued August 10, 2020. The emission factors derived from this test in the opinion of the Permittee were considered to be more representative of the operation of the furnace. If these factors are used to retroactively estimate emission for 2017 through 2019, no PSD threshold would have been exceeded.

The Permittee was ultimately issued a NOV on October 20, 2020, with the resolving action to be the submittal of the application to address compliance with PSD, which is the current application being discussed in this review (app. no. 21A).

PSD Avoidance request

Based on the 2020 testing, the permittee is confident that all future annual emissions resulting from the "furnace C rebuild project" will be below all PSD thresholds, most notably those of PM2.5 and NOx. To this end the Permittee is requesting a PSD avoidance condition be placed into the permit to address the furnace C rebuild project.

Given that the 2017 test data derived emission factors in conjunction with the production rates was only an issue with respect to the PSD thresholds for PM2.5 and NOx, PSD limits will only be imposed for these two pollutants. The existing 02D .0530(u) recordkeeping requirement of 5 years expired in 2020 so any emission increases moving forward of these other pollutants will not need to be compared against the baseline emissions of the furnace C project for PSD applicability purposes in the future.

Although the project included increases from sources other than the furnace, they are very minor contributors. To simplify the monitoring, recordkeeping and reporting, all limitations and the monitoring, recordkeeping and reporting will be limited to the furnace. The following table shows the derivation of the PSD avoidance limits for the

furnace C project for PM2.5 and NOx. These data were derived from the spreadsheet submitted on April 28, 2021 (See Section II).

40	tpy, NOx significance level
0.3	tpy, contributions from other minor sources*
39.7	tpy, sig level adjusted by the removal of other minor sources
297.6	tpy, furance baseline actual emissions
337.4	tpy, PSD avoidance limit for permit

10	tpy, PM2.5 significance level
1.4	tpy, contributions from other minor sources*
8.6	tpy, sig level adjusted by the removal of other minor sources
39.6	tpy, furance baseline actual emissions
48.1	tpy, PSD avoidance limit for permit

* potential emissions minus baseline actual emissions

The baseline emissions for PM2.5 as shown in this application is 39.6 tpy (40 tpy). This value was revised based on the Permittee stating the estimate in the original application (application no.14A) erroneously emitted the condensable PM fraction. Note that this derivation also incorporated the arbitrary 91% size fraction as represented in AP-42 which may or may not be representative of actual emissions. The implications of this will be discussed in the testing discussion below.

Consistent with current DAQ policy, the permit will contain emission factors that are to be used to calculate emissions from the furnace. With the application, the Permittee supplied the emission factors derived from the 2020 testing. Those factors are shown in the table below as excerpted from the permit application. The emission factors used in the furnace C project baseline emissions calculations and those derived from the 2017 test are also shown below for comparative purposes.

Table 3 – Stack Test Information for Furnace C

	Source Test (lbs/ton)		
Furnace C Testing	1993	2017	2020
PM(f)	0.71	1.16	0.44
PM(c)	0.1633	0.06	0.11
PM2.5 (91%*PM(f)+PM(c))	0.81	1.12	0.51
NOx	6.09	8.23	4.63

The permit, consistent with current DAQ permitting policy, will require the use of these emission factors in conjunction with production rates for calculation of actual emissions on a monthly and rolling 12-month basis. Recordkeeping of the monthly emissions will begin retroactively starting January 2020, beginning in the month after which the 02D .0530(u) recordkeeping requirement expired. Accordingly, the 12-month rolling total records will start 12 months later in December 2020. Typical semiannual reporting will also be required.

The permit will require annual testing (i.e., within 13 months of the prior test) to confirm or reestablish these emission factors and details the process by which the emission factors in the permit will or may be updated. Since this permit will be issued well over a year after the previous performance test, the permit will require testing within 180 days after permit issuance.

Note that the Permittee has not conducted PM2.5 testing to date. The Permittee has made no demonstration that the AP-42 size distribution data, established 38 years ago, as referenced in the AP-42 document, is representative of this particular furnace's emissions profile and should be used to derive actual PM 2.5 emissions from a test for total PM (See the PM2.5 emission factor in Table 3 above).

The Permittee has expressed concern during the drafting of the PSD avoidance condition that PM2.5 testing could be problematic and would like the option to conservatively estimate PM2.5 emissions as PM total. This was discussed with Gary Saunders of the Stationary Source Compliance Branch (SSCB) (phone call, June 08, 2021)and it was agreed that this would be acceptable.

It is also recognized that if PM data is going to be used always to estimate the PM 2.5 emissions, it is logical to put the baseline emissions estimate on the same basis and craft the PSD avoidance condition in terms of PM. Consider the table below for the derivation for the PM2.5 PSD avoidance limit using the PM data in the baseline. Note that the baseline PM emissions estimate of the furnace is 42.7 tpy compared to the baseline PM2.5 emissions estimate of 39.6 tpy. Thus, the PSD avoidance limit for PM 2.5 for the furnace will be 48.1 tpy (see above) when using PM 2.5 data and the PSD avoidance limit for PM 2.5 for the furnace will be 51.3 tpy when using PM data (see below).

10	tpy, PM2.5 significance level
1.4	tpy, contributions from other minor sources*
8.6	tpy, sig level adjusted by the removal of other minor sources
42.7	tpy, furance baseline actual emissions, using PM as a surrogate for PM 2.5
51.3	tpy, PSD avoidance limit for permit, using PM as a surrogate for PM2.5

* potential emissions minus baseline actual emissions

Thus, the PSD avoidance limit for NOx and PM2.5 will be stated as follows in the revised permit at Section 2.1 A.5.a as follows:

a. In order to the avoid the applicability of 15A NCAC 02D .0530, the emissions from the furnace C melter (ID no. GF-C.FURN). shall not exceed:
   i. 337.4 tons of NOx per consecutive 12-month period; and
   ii. (A) 48.1 tons of PM2.5 per consecutive 12-month period; or
   (B) 51.25 tons of PM per consecutive 12-month period.

To do this however, the Permittee will need to decide with which PM2.5 limit it will comply. If it anticipates eventually testing for PM2.5 and using the data for PSD avoidance purposes it will need to comply with 2.1 A.5.a.ii(A). If the Permittee anticipates always using PM data for PSD avoidance compliance purposes here, it will need to comply with 2.1 A.5.a.ii.(B). The Permittee cannot go back and forth since at this time the ratio of PM2.5 to PM is unknown. Choosing with which limit to comply is addressed in the permit at Section 2.1 A.5.b.iv. The relevant language is as follows:

iv. The Permittee shall submit with the initial test report a statement whether Section 2.1 A.5.a.ii(A) or (B) will be used. Once chosen, this limit may not be changed. If Section 2.1 A.5.a.ii(A) is chosen, the Permittee may test for either PM or PM2.5 in the initial or any subsequent test. If Section 2.1 A.5.ii(B) is chosen, the Permittee must test for PM in the initial and all subsequent tests.

As stated in the original application (application no. 14A) the furnace C project was not intended to increase the production capacity of the furnace. The furnace prior to the furnace C project was and still is permitted at a 300 tons per day maximum pull rate. This pull rate will be included as an enforceable production limit in the PSD avoidance condition consistent with current DAQ permitting policy.

IV. Regulatory Review

A review of the current applicable regulations and the associated permit conditions affected by this modification will be presented below. All changes (including minor and administrative changes) made to the permit conditions will be presented in the table of changes presented in Section VI.

Note that only the regulations and permit conditions affected by this permitting action will be discussed here. The original application (application no. 14A) addressed all other applicable regulations with respect to the furnace C project.

15A NCAC 2D .0530(u): USE OF PROJECTED ACTUAL EMISSIONS TO AVOID APPLICABILITY OF REQUIREMENTS OF PSD
The permit condition addressing this rule required 5 years of monitoring, recordkeeping and reporting which was completed in 2020. Thus, it can be removed from the permit. From a practical standpoint, it essentially being replaced by a permanent PSD avoidance condition for the pollutants of concern NOx and PM2.5. See discussion above in Section III.

15A NCAC 02Q. 0317: AVOIDANCE CONDITIONS for 15A NCAC 02D. 0530: PREVENTION OF SIGNIFICANT DETERIORATION
A permit condition is being added to incorporate a PSD avoidance condition pursuant to this rule. See discussion in Section III above. No further discussion here is necessary.

15A NCAC 02Q .0504: OPTION FOR OBTAINING CONSTRUCTION AND OPERATION PERMIT

Since the PSD avoidance limitation does not contravene or conflict with a current in the existing permit, this modification qualifies and has been requested to be processed pursuant to 02Q .0504. Thus, this permit modification is being processed pursuant to the state permitting rules (15 A NCAC 02Q .0300). The Permittee shall have one year from the date of beginning operation after this modification (in this case, since there is no physical modification, the Permittee shall have one year after permit issuance) to submit an amended application consistent with Title V permitting procedures (15A NCAC 02Q .0500).

V. NSPS, NESHAP, PSD and CAM Applicability

NSPS
The facility has three sources subject to NSPS 40 CFR 60 Subpart IIII - Standards of Performance for Stationary Compression Ignition Internal Combustion Engines. All three sources, which are shown in the table below, are on the insignificant activities list. These sources are not affected by this permitting action.

Emission Source ID No.	Emission Source Description
I-DE3	one diesel engine - fire pump (175 hp rated capacity)
I-DE5	one diesel-fired emergency generator (363kW output/486 hp rated capacity)
I-DE6	one diesel-fired emergency generator (480 hp rated capacity)

NESHAP/MACT
The facility is a minor source of HAPS; hence no major source NESHAPs apply. Glass Furnace B triggered 40 CFR 63, Subpart SSSSSS "National Emission Standards for Hazardous Air Pollutants for Glass Manufacturing Area Sources" (MACT 6S) on September 28, 2010.

Production of emerald glass in Furnace A began on October 5, 2020. The Furnace A stack test was conducted on December 15, 2020. The initial notification, NOCS and stack test results were received on January 29, 2021.

The facility has five sources, which are shown in the table below, subject to 40 CFR 63 Subpart ZZZZ -National Emissions Standards for Hazardous Air Pollutants (NESHAP) for Stationary Reciprocating Internal Combustion Engines (RICE). These sources are not affected by this permitting action.

Emission Source ID No.	Emission Source Description
I-DE3	one diesel engine - fire pump (175 hp rated capacity)
I-DE4	one natural gas-fired engine - side wall cooling fan backup (46 hp rated capacity)
I-EG	one diesel-fired emergency generator (125kW rated capacity)
I-DE5	one diesel-fired emergency generator (363kW output /486 hp rated capacity)
I-DE6	one diesel-fired emergency generator (480 hp rated capacity)

The emission source ID No. I-WH, one natural gas-fired domestic hot water boiler (740,000 Btu per hour maximum heat input), is not subject to Subpart JJJJJJ "National Emission Standards for Hazardous Air Pollutants for Industrial, Commercial, and Institutional Boilers Area Sources" as it meets the requirements of 40 CFR 63.11195(e) gas-fired boiler) and (f) hot water heater as defined in this subpart.

No other area source NESHAPs apply at the subject facility.

CAM
CAM is not applicable at any source at the facility. All sources utilizing control devices to control a given pollutant (in this case PM/PM10/PM2.5) have uncontrolled emissions of the given pollutant of less than 100 tpy. The addition of the PSD avoidance condition discussed above

PSD
The facility is considered a major stationary source for PSD purposes pursuant to 40 CFR 51.166(b)(1)(ii), as it emits or has the potential to emit over 250 tpy of regulated NSR pollutants, including SO2 and NOx. The current permitting action is adding a PSD avoidance limit for the furnace C project first permitted in permit no. T21. See Section III above for full discussion.

112(r)
The facility does not use, store, or manufacture any of the regulated substances in quantities above the thresholds for the Section 112(r) program involving Risk Management Practice (RMP) requirements. They are only subject to the general duty requirements contained in General Condition EE of Section 3 of the air permit, which are federally enforceable only.

VI. Changes to Existing Title V Air Permit

Existing Condition No.	New Condition No.	Changes
Cover Letter	Same	• Used current shell language, updated permit numbers, dates, etc.
Permit, page 1	Same	• Revised dates, permit numbers, etc. using current shell standards
Section 1	Same	• Added 02Q .0501(b)(2) footnote to furnace C • Added MACT SSSSSS indicator to glass furnace A (ID No. GF-A.FURN)
Section 2.1 A.5	NA	• Removed the 02D .0530(u) condition as the requirements of the permit condition have been satisfied.
Section 2.1 A.4.d.i	Same	• Clarified ID numbers for glass furnace B

Existing Condition No.	New Condition No.	Changes
NA	Section 2.1 A.4.d.ii	• Added the following language to memorialize the triggering date and compliance date of MACT SSSSSS for Furnace A (ID No. GF-A.FURN) The Permittee introduced production of glass product that contains glass manufacturing metal HAP on October 05, 2020 in Furnace (ID No. GF-A.FURN). The compliance date for Furnace (ID No GF-A.FURN) is October 05, 2022.
NA	2.1 A.5	• Added a PSD avoidance condition pursuant to 02Q .0317, specifically for NOx and PM2.5. Requirements include: • production limitation • annual testing • monthly and rolling 12-month recordkeeping • semiannual reporting
NA	2.1 A.6	• Added a 02Q .0504 condition requiring the Permittee to submit TV application no later than 12 months from current permit issuance.
Section 3 General Conditions	Same	• Section was revised from 5.1 (08/03/2017) to (5.5 08/25/2020). Changes include: ▪ Condition K was updated to reflect renewal application is due 6 months prior to date of permit expiration. ▪ Condition BB – correct regulatory reference from 02Q .0507(d)(4) to (d)(3) ▪ Condition CC – correct regulatory reference from 02Q .0501(e) to (d) ▪ Condition JJ – clarified the applicable requirements for sources required to test pursuant to .0524, .1110, and .1111. ▪ Condition NN – correct regulatory references from 02Q .0501(c)(2) to (b)(2) in paragraph 1 and from 02Q .0501(d)(2) to (c)(2) in paragraph 2.

VII. Compliance History

A summary of the compliance history from the compliance inspection report dated January 19, 2021, is as follows with an update provided by Jim Hafner of the regional office. Note that the current permitting action is a direct result of the October 30, 2020, Notice of Violation and February 11, 2021, Notice of Continuing Violation.

- February 11, 2021 – A Notice of Continuing Violation was issued for failure to submit a PSD permit application for the Furnace C Project in violation of 15A North Carolina Administrative Code (NCAC) 2D .0530. Based on a review of the PSD Analysis received on December 4, 2020, DAQ determined that a permit application was required for the resolution of this violation issued on October 30, 2020.
- October 30, 2020 - A Notice of Violation was issued for failure to submit a permit application per Permit Condition 2.1.A.5.d. The purpose of the permit application is to determine if PSD was triggered for the Furnace C rebuild project. As stated above, the facility was allowed to submit a PSD Analysis in lieu of a permit application. The PSD Analysis was received on December 4, 2020. Based on the submittal, DAQ determined that PSD was triggered, and the facility will be required to submit a permit application.

- December 20, 2019 - A Notice of Violation was issued for exceeding the limit of 50 hours for nonemergency use for fire pump engine (I-DE3) per 40 CFR Part 63 Subpart ZZZZ. A response to the NOV was received on

January 6, 2020. The response indicated that a furnace inspection revealed a critical issue with Furnace B. During the repairs, a back-up chiller and pump were utilized to support the recirculation of water. Both the backup chiller and pump failed, necessitating the use of the emergency fire pump to prevent a glass leak and serious health and safety risks to the employees.

- August 8, 2019 – A Notice of Violation was issued for a late report for the purpose of complying with 15A NCAC 2D .0516 "Sulfur Dioxide from Combustion Sources." The report was received on August 15, 2019.

- February 20, 2018 – The facility was issued a Notice of Deficiency for exceeding the allowable hours for readiness testing on engine I-DE3 and failing to perform annual maintenance on engines I-DE4 and I-EG in 2017 CY.

- April 12, 2017 – The facility was issued a Notice of Deficiency for failing to submit the annual report required by Condition 2.1.A.6 of Air Quality Permit 01491/T21 by the due date of March 1, 2017. The delinquent report was received on April 13, 2017.

VIII. Permit History Since Last TV Permit Renewal

This is the first permit application submitted since the last TV permit renewal.

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

This application is being processed pursuant to 15A NCAC 02Q .0501(b)(2) and 02Q .0504. As such no public notice/EPA and affected state(s) review will be conducted. This modification will be subject to such procedures when the Title V application ("Part II") is submitted within 12 months of this permit being issued.

X. Comments and Conclusions

NA

XI. Recommendations

It is recommended that permit no. 01491T23 be issued.

Attachment 2 to Review of Applications 2900106.22A & .20A
CAM Analysis

The following analysis was prepared by Owens-Brockway and included in Application 2900106.22A as an attachment to Form E6.

The Owens-Brockway Winston-Salem Facility is a major source, and several emissions units in the raw material batch handling area are equipped with bagfilter systems for product recovery and particulate matter (PM) control. These units are also subject to the process weight rate-based PM standards 15A NCAC 02D.0515. However, as demonstrated in the table below and in the attached calculations, none of these units are subject to CAM because: 1) the control devices are not being used to achieve compliance with the emission limitation, and 2) the uncontrolled potential PM emission rate from each potentially subject unit is well below the major source threshold of 100 tons per year.

PSEU ID	PSEU Description	Control Device ID	Control Device Description	Uncontrolled PM PTE (tons/yr)
ES-SS1 and ES-SS2	Sand silos	CD-SSFF	Bagfilter	1.66
ES-RME	Raw material elevator	CD-RMEFF	Bagfilter	3.93
ES-MBE	Mix batch elevator	CD-MBEFF	Bagfilter	3.93
ES-MBAE	East mix batch bin for Furnace A	CD-MBAEFF	Bagfilter	3.93
ES-MBAW	West mix batch bin for Furnace A	CD-MBAWFF	Bagfilter	3.93
ES-MBBE	East mix batch bin for Furnace B	CD-MBBEFF	Bagfilter	3.93
ES-MBBW	West mix batch bin for Furnace B	CD-MBBWFF	Bagfilter	3.93
ES-MBCE and ES-MBCW	East & west mix batch bin for Furnace C	CD-MBCFF	Bagfilter	3.93
ES-08	Grit blaster	CD-08FF	Filter cartridge	3.55
ES-09	Grit blaster	CD-09FF	Bagfilter	5.91