

**NORTH CAROLINA DIVISION OF
AIR QUALITY**

Application Review

Issue Date:

Region: Winston-Salem Regional Office
County: Wilkes
NC Facility ID: 9700023
Inspector's Name: Andrew Kormos
Date of Last Inspection: 02/03/2021
Compliance Code: 3 / Compliance - inspection

Facility Data	Permit Applicability (this application only)
<p>Applicant (Facility's Name): Gardner Glass Products, Inc.</p> <p>Facility Address: Gardner Glass Products, Inc. 301 Elkin Highway North Wilkesboro, NC 28659</p> <p>SIC: 3231 / Products of Purchased Glass NAICS: 327215 / Glass Product Manufacturing Made of Purchased Glass</p> <p>Facility Classification: Before: Title V After: Title V Fee Classification: Before: Title V After: Title V</p>	<p>SIP: 02D .0515 .0521 NSPS: NA NESHAP: NA PSD: NA PSD Avoidance: 02Q .0317 (for 02D .0530) NC Toxics: 02Q .0711 112(r): NA Other: 02D .1806</p>

Contact Data			Application Data
Facility Contact	Authorized Contact	Technical Contact	<p>Application Number: 9700023.21A Date Received: 11/30/2021 Application Type: Renewal Application Schedule: TV-Renewal</p> <p style="text-align: center;">Existing Permit Data</p> <p>Existing Permit Number: 02207/T11 Existing Permit Issue Date: 02/20/2020 Existing Permit Expiration Date: 05/31/2022</p>
Jill Edwards Environmental Manager (336) 651-9300 PO Box 1570 North Wilkesboro, NC 28659	Melissa Lackey Chief Financial Officer (336) 651-9300 PO Box 1570 North Wilkesboro, NC 28659	Jill Edwards Environmental Manager (336) 651-9300 PO Box 1570 North Wilkesboro, NC 28659	

Total Actual emissions in TONS/YEAR:

CY	SO2	NOX	VOC	CO	PM10	Total HAP	Largest HAP
2020	---	0.1900	62.27	0.1700	0.0100	0.3387	0.3357 [Xylene (mixed isomers)]
2019	---	0.2100	70.88	0.1700	0.0100	0.5536	0.5498 [Xylene (mixed isomers)]
2018	---	0.2000	73.04	0.1800	0.0100	0.8806	0.8767 [Xylene (mixed isomers)]
2017	---	0.1800	89.84	0.1400	---	0.6825	0.6792 [Xylene (mixed isomers)]
2016	---	0.1700	80.36	0.1400	---	0.8197	0.8166 [Xylene (mixed isomers)]

<p>Review Engineer: Eric L. Crump, P.E.</p> <p>Review Engineer's Signature: _____ Date: _____</p>	<p style="text-align: center;">Comments / Recommendations:</p> <p>Issue 02207/T12 Permit Issue Date: Permit Expiration Date:</p>
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1. Purpose of Application

Gardner Glass Products, Inc. (hereinafter referred to as Gardner) is a glass product manufacturing facility located in North Wilkesboro, Wilkes County, North Carolina. The facility currently operates under Title V Permit No. 02207T11 with an expiration date of May 31, 2022. Gardner has applied for renewal of their Title V air quality permit. Renewal application No. 9700023.21A was received on November 30, 2021, or at least six months prior to the expiration date as required by General Condition 3.K of the current permit. Therefore, the existing permit shall not expire until the renewal permit has been issued or denied. All terms and conditions of the existing permit shall remain in effect until the renewal permit has been issued or denied.

Gardner did not request any changes to the existing permit in permit application No. 9700023.21A.

2. Facility Description

Building 1 of the Gardner facility houses a curtain coater mirror backing line (CC1) which manufactures mirrors from large pieces of glass. Large rectangular pieces of glass are conveyed down the straight line on numerous rollers. The glass is first cleaned with hot soapy water supplied by a natural gas-fired water heater (IPWH1). Next, the glass receives a tin chloride bath and rinse. After cleaning the glass is coated with a silver nitrate coating and rinse, and a copper coating is applied to the glass to protect the silver. The glass is then cleaned again and dried by an electric dryer. Next, a curtain coater applies gray mirror-back paint, which contains the large amounts of VOCs the facility emits. The mirrors are then dried and cooled down using fans. The final product is then removed from the line and placed into the warehouse for large scale distribution.

Building 2 of the Gardner facility houses a color glass coating line consisting of one curtain coater (CG1) with two electric drying ovens. In this process, glass panels go through a wash station, a curtain coater for painting, and an electric dryer. The colored glass panels are ultimately used as decorative panels or glass tiles (e.g., for backsplashes). Building 2 also houses two paint booths (I-PB1 and I-PB2), one Cefla line (I-CL), and one natural gas-fired boiler (IB2) that are on the facility's insignificant source list. The paint booths are used to coat glass for smaller production volumes. Manually painting the glass conserves paint usage for the facility.

The facility also operates two ink jet printers (IP 1&2) and five internally vented natural gas-fired space heaters (ISH1 through ISH5). The facility also has eight natural gas-fired space heaters, and a woodworking shop on-site for making the frames used to ship the glass and mirrors. All the woodworking equipment exhausts to internal bagfilters.

3. Application Chronology

June 6, 2017	Division of Air Quality (DAQ) issues Permit No. 02207T10 to Gardner as a Title V renewal.
January 8, 2020	DAQ receives letter from Gardner requesting an applicability determination for relocating a robotic type painting setup with curing oven, a part of their direct-to-glass painting operation, to another location on their property.
January 14, 2020	DAQ issues Permit Applicability Determination No. 3509 stating that the relocation of the painting setup and curing oven will neither affect the monitoring,

recordkeeping or reporting requirements in the permit nor trigger any new regulatory applicability. No permit application is required.

January 30, 2020	DAQ receives Air Permit Application No. 9700023.20A for an administrative amendment to the Gardner permit to correct an error with the prevention of significant deterioration (PSD) avoidance condition and to split the direct to glass painting line (ID No. I-DTG) into Paint Booths 1 and 2 (ID Nos. I-PB1 and I-PB2), and Cefla Line (ID No. I-CL).
February 20, 2020	DAQ issues Permit No. 02207T11 to Gardner as an administrative amendment.
November 30, 2021	DAQ receives Air Permit Application No. 9700023.21A for renewal of the Gardner permit.
January 27, 2022	Draft permit and review sent to DAQ Permits supervisor for internal review.
March 25, 2022	Comments provided on draft permit and review by DAQ Permits supervisor.
April 21, 2022	DAQ sends draft permit to Gardner and Winston-Salem Regional Office (WSRO) for review and comment.
May 6, 2022	DAQ receives comments on draft permit and review from WSRO.
May 10, 2022	DAQ receives comments on draft permit and review from Gardner.
xxx	Permit renewal notice published, 30-day public notice and comment period begins, and 45-day EPA comment period begins.
xxx	30-day public notice and comment period ends.
xxx	45-day EPA comment period ends.

4. Changes to Permit and Title V Equipment Editor (TVEE) Discussion

The following table summarizes changes made to the current [Permittee] permit as a result of this permit renewal:

Page No.	Section	Description of Changes
Cover and throughout	---	<ul style="list-style-type: none"> Updated all dates and permit revision numbers Changed all citations of 15A NCAC 2D/2Q to 15A NCAC 02D/02Q
After cover letter	Attachment	Inserted "Notice Regarding the Right to Contest a Division of Air Quality Permit Decision"
Insignificant Activities List	Attachment	Moved to Section 3 of permit
2	Table of Contents	Added Section 2.2, Insignificant Activities per 15A NCAC 02Q .0503(8)
3	---	Moved "List of Acronyms" from end of permit to here

Page No.	Section	Description of Changes
4	1	Corrected description of source ID No. CG1
	2.1 A	<ul style="list-style-type: none"> Corrected description of source ID No. CG1 Updated Limits/Standards summary table to current format Added visible emission limit for source ID No. CG1
	2.1 A.1	Minor revisions to reflect the most current stipulations for 15A NCAC 02D .0515
5	2.1 A.2	Minor revisions to reflect the most current stipulations for 15A NCAC 02D .0521
	2.1 A.2.b	Added subparagraph to subject curtain coater for glass painting (ID No. CG1) to opacity limits under 15A NCAC 02D .0521. Subsequent preexisting paragraphs in section 2.1.A.2 were re-lettered accordingly.
6	2.1 A.4.d	Minor revisions to reflect the most current stipulations for 15A NCAC 02D .0317
	2.1 A.5	Updated section to reflect the most current stipulations for 15A NCAC 02Q .0711
7	3	<ul style="list-style-type: none"> New permit section containing list of insignificant activities. General Conditions moved to new Section 4 Changed number of natural gas space heaters from five to eight (ID Nos. "ISH1 through ISH8" instead of "ISH1 through ISH5") Revised description of ID Nos. ISH1 through ISH5
8-16	4	Updated General Conditions to Version 6.0 dated January 7, 2022

The following changes were required to the TVEE as a result of this renewal:

Additions:

- ID No. ISH6, internally-vented natural gas-fired space heater (0.15 million Btu per hour)
- ID No. ISH7, internally-vented natural gas-fired space heater (0.15 million Btu per hour)
- ID No. ISH8, internally-vented natural gas-fired space heater (0.15 million Btu per hour).

Revisions:

Source ID No.	Former Description	Revised Description
ISH1 through ISH5	natural gas-fired space heater (0.15 million Btu per hour)	internally-vented natural gas-fired space heater (0.15 million Btu per hour)
ID No. CG1	Color glass coating line consisting of one curtain coater	Color glass coating line consisting of: one curtain coater and one electric drying oven

5. Description of Changes and Estimated Emissions

Gardner has not reported any changes to the facility since the last permit was issued (No. 02207T11, February 20, 2020) that would affect emissions from the facility. No changes are being made to the permit in this renewal that would result in a change in emissions from the facility. A five year summary of the actual emissions is included in the header of this review.

The following discrepancies in the permit were noted in the March 3, 2022 inspection report submitted by Andrew Kormos, WSRO:

- *The permit lists a color glass coating line consisting of one curtain coater (CG1) with two electric drying ovens. It should be noted that this line only has one electric drying oven, not two as listed. The other electric drying oven is associated with the direct to glass painting line (I-DTG¹). This correction has been made to the permit and the TVEE as noted above. Since the number of drying ovens onsite has not changed, this correction will have no impact on emissions at the facility.*
- *The permit . . . lists five space heaters (ISH1 through ISH5), but there are actually eight natural gas heaters. This correction has been made to the permit and the TVEE as noted above. The three additional space heaters (ISH6 through ISH8), like the five space heaters already listed in the permit, are classified as insignificant activities under 15A NCAC 02Q .0503(8) because the emissions for each heater would not violate any applicable emissions standard, the potential uncontrolled criteria pollutant emissions for each heater do not exceed five tons per year and the potential uncontrolled HAP emissions for each are below 1000 pounds per year. Therefore, no conditions are included in the permit for these space heaters.²*

6. Regulatory Review

Gardner is subject to the following state regulations, in addition to the requirements in the General Conditions:

15A NCAC 02D .0515, Particulates from Miscellaneous Industrial Processes. This rule addresses emissions of particulate matter from stacks, vents, or outlets for any industrial process for which no other emission control standards apply. For such processes, the allowable emission rates shall not exceed the level calculated using one of the following equations, as appropriate:

$$E = 4.10(P)^{-0.67} \quad \text{for process rates less than or equal to 30 tons per hour (ton/hr)}$$

$$E = 55.0(P)^{0.11} - 40 \quad \text{for process rates greater than 30 ton/hr}$$

Where:

E = allowable emissions limit for particulate matter in pounds per hour (lb/hr), and

P = process rate in ton/hr (i.e., the total weight per hour of all materials introduced into a specific process that may cause any emission of particulate matter. Liquid and gaseous fuels and combustion air are not included in the process weight).

The curtain coater mirror backing line (CC1) and the color glass coating line (CG1) at Gardner are subject to these limits. Gardner must also maintain the production records necessary to derive the process rate P for these sources. No reporting is required for particulate emissions from these sources as these sources are uncontrolled sources of emissions. This permit renewal does not affect this status. Continued compliance with this rule is expected.

¹ Source ID No. I-DTG was redesignated as three separate insignificant sources: Paint Booths 1 and 2 (I-PB1 and I-PB2), and I-CL (Cefla Line, with its own drying oven) via an administrative amendment to the permit (see permit review by J. Voelker, 02207T11, February 20, 2020)

² Classifying an emission source or activity as insignificant does not mean it is exempted from any applicable requirement, or that the Permittee is exempted from demonstrating compliance with any applicable requirement. The Permittee is required to have documentation— including calculations, if necessary—available at the facility at all times that demonstrates that an emission source or activity is insignificant.

15A NCAC 02D .0521, Control of Visible Emissions. This regulation establishes opacity limits for visible emissions generated by fuel burning operations and industrial processes (except during startups, shutdowns, and malfunctions approved according to procedures in 15A NCAC 02D .0535). The regulation establishes opacity limits for visible emissions from sources based on the date the sources were manufactured.

Because both the curtain coater mirror backing line (CC1) at Gardner was manufactured on or before July 1, 1971, this regulation limits it to 40 percent opacity averaged over a six-minute period. The six-minute averaging periods may exceed 40 percent opacity not more than once in any hour, and not more than four times in any 24-hour period. In no event shall the six-minute average exceed 90 percent opacity. To ensure compliance, Gardner must observe the emission points of both sources for visible emissions above normal. If emissions are above normal, Gardner must take appropriate action to reduce those emissions as soon as practicable, or demonstrate in accordance with 15A NCAC 02D .2610 (Method 9) for 12 minutes that the percent opacity is below 40 percent. Gardner must also maintain the monitoring results (and any corrective actions) available for DAQ review upon request. This permit renewal does not affect this status. Continued compliance with this rule is expected.

The color glass coating line (CG1) was added to the Gardner facility in a 2011 permit modification (permit No. 02207T09, issued November 28, 2011). In that permit modification, CG1 was limited to 20 percent opacity averaged over a six-minute period. The six-minute averaging periods may exceed 20 percent opacity not more than once in any hour, and not more than four times in any 24-hour period. In no event shall the six-minute average exceed 87 percent opacity. For reasons unexplained, the opacity requirement for CG1 was removed when the permit was renewed (permit No. 02207T10, issued June 6, 2017). This error is being corrected in this permit renewal with the reinstatement of the 20 percent opacity requirement. The same requirements for ensuring compliance for CC1 will also apply to CG1. Compliance with this requirement will be monitored in subsequent facility inspections.

15A NCAC 02D .1806, Control and Prohibition of Odorous Emissions. This regulation provides for the control and prohibition of objectionable odorous emissions, applies facility-wide, and is state-enforceable only. Under this rule, Gardner is required to implement management practices or install and operate odor control equipment sufficient to prevent odorous emissions from causing or contributing to objectionable odors beyond the facility's boundary. This permit renewal does not affect this status. Continued compliance with this rule is expected.

Gardner is also subject to the following state regulations, which will be discussed in upcoming sections of this review:

15A NCAC 02Q .0317, Avoidance Conditions (PSD Avoidance)—see Section 9

15A NCAC 02Q .0711, Emission Rates Requiring a Permit—see Section 11

The permit has been updated to reflect the most current stipulations for all applicable regulations.

7. National Emission Standards for Hazardous Air Pollutants (NESHAPs): Maximum and/or Generally Achievable Control Technology (MACT/GACT)

The Gardner facility is not currently subject to any NESHAPs, because it is not a major source of HAP emissions. This permit renewal does not affect this status.

8. New Source Performance Standards (NSPS)

The Gardner facility is not currently subject to any NSPS. This permit renewal does not affect this status.

9. New Source Review (NSR)/Prevention of Significant Deterioration (PSD)

Gardner has accepted an avoidance condition in accordance with 15A NCAC 02D .0317 in their permit so they can be classified as a minor stationary source with regards to PSD. Under this condition, Gardner is required to emit less than 250 tons per year of VOC emissions. Each month, Gardner must calculate VOC emissions by multiplying the total amount of each type of VOC-containing material they consume during the month by the VOC content of the material. The calculations must be recorded in a logbook, and Gardner must submit a semiannual summary report of their monitoring and recordkeeping activities. This permit renewal does not affect this status. During the period 2016 through 2021, the highest amount of VOC Gardner emitted in a single year was 89.84 tons in 2017. Gardner is expected to continue to comply with this requirement.

10. Risk Management Plan (RMP) Requirements

40 CFR Part 68 requires stationary sources storing more than threshold quantities of regulated substances to develop a RMP in accordance with Section 112(r) of the Clean Air Act. The RMP lists the potential effects of a chemical accident at the facility, steps the facility is taking to prevent an accident, and emergency response procedures to be followed if an accident should occur.

Gardner is not subject to Section 112(r) of the Clean Air Act requirements because it stores none of the regulated substances in quantities above the thresholds in the Rule. This permit renewal does not affect the 112(r) status of the facility. Continued compliance is expected.

10. Compliance Assurance Monitoring (CAM)

The CAM rule (40 CFR 64) applies to each pollutant specific emissions unit located at a major source that is required to obtain a Title V, Part 70 or 71 permit if it meets all of the following criteria:

- It is subject to an emission limitation or standard, and
- It uses a control device to achieve compliance, and
- It has potential pre-control emissions that equal or exceed the major source threshold (i.e., either 100 tpy for criteria pollutants, 10 tpy of any individual HAP, or 25 tpy of any combination of HAP).

The following emission limitations or standards are exempted from the CAM rule:

- NSPS or NESHAP standards proposed after November 15, 1990;
- Stratospheric ozone protection requirements under Title VI of the Clean Air Act
- Acid rain program requirements;
- Emission limitations or standards or other requirements that apply solely under an approved emissions trading program;
- An emissions cap that meets requirements of 40 CFR 70.4(b)(12) or 71.6(a)(13);
- Emission limitations or standards for which a Part 70 or 71 permit specifies a continuous compliance determination method, as defined in 40 CFR 64.1, unless the applicable compliance

method includes an assumed control device emission reduction factor that could be affected by the actual operation and maintenance of the control device (e.g., a surface coating line controlled by an incinerator for which continuous compliance is determined by calculating emissions on the basis of coating records and an assumed control device efficiency factor based on an initial performance test; in this example, this part would apply to the control device and capture system, but not to the remaining elements of the coating line, such as raw material usage).

- Certain municipally-owned utility units, as defined in 40 CFR 72.2.

Please note that the emission unit is not exempted from the CAM rule if nonexempt emission limitations or standards (e.g. a state rule or an older NSPS emission limits) apply to the emissions unit.

CAM does not apply to the Gardner facility because none of the sources at the facility require controls to meet emission standards. This permit renewal does not affect the facility's status with respect to CAM. Continued compliance is expected.

11. Facility-wide Air Toxics Review

The Gardner permit lists the NC toxic air pollutants (TAPs) formaldehyde and xylene, and their respective toxic permit emission rates (TPERs) as established in 15A NCAC 02Q .0711, "Emission Rates Requiring a Permit". Gardner has made a demonstration that its plant-wide actual emissions do not exceed the TPERs. The permit requires that Gardner operate and maintain the facility so that any new, existing, or increased emissions of TAPs from the facility, including fugitive emissions, will not exceed the TPERs without first obtaining an air permit to construct or operate; and to maintain records that demonstrate compliance with each TPER. Based on the most recent inspection, Gardner has been complying with this regulation, and at this time there is no basis for including TPERs for additional TAPs in the permit. Continued compliance will be determined during subsequent inspections.

12. Facility Emissions Review

The table on the header page of this review summarizes emissions Gardner has reported in the annual emissions inventories for the years 2016 through 2020. As shown, annual emissions for HAPs, SO₂, VOC, CO, and PM were less than 1 ton. NOX represents the largest quantity of pollutants emitted annually, but have decreased from a high of 89.84 tons in 2017 to 62.27 tons in 2020.

13. Compliance History and Status

The following chronology dates from when the Gardner permit was last renewed on June 6, 2017.

- | | |
|-------------------|---|
| January 30, 2018 | Robert Barker, Winston-Salem Regional Office (WSRO) conducts facility compliance inspection. Facility appears to be operating in compliance with all permit requirements. |
| December 18, 2018 | Robert Barker and Shannon Leonard, WSRO conduct facility compliance inspection. Facility appeared to be operating in compliance with all permit requirements. |
| October 15, 2019 | Robert Barker and Ryan Dyson, WSRO conduct facility compliance inspection. Facility appeared to be operating in compliance with all permit requirements. |

- February 5, 2021 Andrew Kormos, WSRO conducts facility compliance inspection. Facility appeared to be operating in compliance with all permit requirements.
- March 3, 2022 Andrew Kormos, WSRO conducts facility compliance inspection. Facility appeared to be operating in compliance with all permit requirements.

Since the last permit renewal, no Notices of Violation or Deficiency have been issued to Gardner, and the facility appears to be in compliance. Continued compliance is expected.

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

A notice of the DRAFT Title V Permit shall be made pursuant to 15A NCAC 02Q .0521. The notice will provide for a 30-day comment period, with an opportunity for a public hearing. Consistent with 15A NCAC 02Q .0525, the EPA will have a concurrent 45-day review period. Copies of the public notice shall be sent to persons on the Title V mailing list and EPA. Pursuant to 15A NCAC 02Q .0522, a copy of each permit application, each proposed permit and each final permit shall be provided to EPA. Also, pursuant to 02Q .0522, a notice of the DRAFT Title V Permit shall be provided to each affected State at or before the time notice is provided to the public under 02Q .0521 above.

Virginia and Tennessee are affected states within 50 miles of the facility, and the Forsyth County Office of Environmental Assistance and Protection is an affected local program.

Public Notice of the DRAFT Title V Permit ran from XXXX YY, 2022, to XXXX YY, 2022. **Discuss any public comments received.**

EPA's 45-day review period ran concurrent with the 30-day Public Notice, from XXXX YY, 2022, to XXXX YY, 2022. **Discuss any comments received from EPA and U.S. EPA Region 4 regarding the DRAFT Title V Permit.**

15. Other Regulatory Considerations

The following items were not required in Permit Application No. 9700023.21A:

- Professional Engineer's seal
- Zoning consistency determination
- Permit fee.

16. Recommendations

DAQ has reviewed the permit application for Gardner Glass Products, Inc. located in North Wilkesboro, Wilkes County, North Carolina to determine compliance with all procedures and requirements. DAQ has determined that this facility is complying or will achieve compliance, as specified in the permit, with all requirements that are applicable to the affected sources. DAQ recommends the issuance of Air Permit No. 02207T12.