NORTH CAROLINA DIVISION OF AIR QUALITY

Application Review

Issue Date:

Region: Wilmington Regional Office
County: New Hanover
NC Facility ID: 6500049
Inspector's Name: Ashby Armistead
Date of Last Inspection: 12/05/2022
Compliance Code: 3 / Compliance - inspection

Facility Data

Applicant (Facility's Name): Corning Incorporated

Facility Address:
Corning Incorporated
310 North College Road
Wilmington, NC 28405

SIC: 3229 / Pressed And Blown Glass, Nec
NAICS: 327212 / Other Pressed and Blown Glass and Glassware Manufacturing

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

Permit Applicability (this application only)

SIP: 15A NCAC 02D .0503, 02D .0515, 02D .0516, 02D .0521, 02D .1100, 02D .1111, 02D 0614, 02D .1806, 02D .0711, and 02Q .0317 of 02D .0530
NSPS: N/A
NESHAP: MACT ZZZZ
PSD: N/A
PSD Avoidance: 02Q .0317 for 02D .0530
NC Toxics: N/A
112(r): Yes
Other: 40 CFR 81

Contact Data

Facility Contact	Authorized Contact	Technical Contact
Carol Yates Environmental Control Supervisor (910) 784-7476 310 North College Road Wilmington, NC 28405	William Lopatka Plant Manager (910) 784-7201 310 North College Road Wilmington, NC 28405	Carol Yates Environmental Control Supervisor (910) 784-7476 310 North College Road Wilmington, NC 28405

Application Data

Application Number: 6500049.23A and .21A
Date Received: 10/19/2023 and 3/10/21
Application Type: Renewal
Application Schedule: TV-Renewal

Existing Permit Data
Existing Permit Number: 03809/T56
Existing Permit Issue Date: 01/06/2022
Existing Permit Expiration Date: 04/30/2024

Total Actual emissions in TONS/YEAR:

CY	SO2	NOX	VOC	CO	PM10	Total HAP	Largest HAP
2022	0.1200	183.94	32.21	3.49	16.97	69.82	50.90 [Chlorine]
2021	0.0700	185.39	26.44	3.30	16.76	68.91	50.08 [Chlorine]
2020	0.0600	165.66	22.91	3.04	12.95	45.45	33.15 [Chlorine]
2019	0.0600	176.79	25.75	3.18	15.21	60.09	44.40 [Chlorine]
2018	0.0800	216.99	32.77	3.73	18.39	74.88	55.57 [Chlorine]

Review Engineer: Suraiya Akter

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

Comments / Recommendations:
Issue 03809/T57
Permit Issue Date:
Permit Expiration Date:

1. Purpose of Application

Corning Incorporated currently holds Title V Permit No. 03809T56 with an expiration date of April 30, 2024, for an optical fiber manufacturing facility in Wilmington, New Hanover County, North Carolina. This permit revision consolidates two separate permit applications (Application Nos. 6500049.23A and 6500049.21A). Each is summarized below.

Application ID No. 6500049.23A:
This permit application is for a permit renewal without modification. The renewal application was received on October 19, 2023, or at least six months prior to the expiration date. Therefore, the existing permit shall not expire until the renewal permit has been issued or denied. All terms and conditions of the existing permit shall remain in effect until the renewal permit has been issued or denied.

As part of this renewal, the applicant requested the following items as "permit cleanup". These items do not represent modifications of the current permit.

1. Remove the Alternate Operating Scenario (AOS) from ES-006
2. Update ES-FP3 MACT applicability.
3. Move Fire pumps (ES-FP1, ES-FP-2, ES-FP3) to Insignificant List
4. Move two emergency generators (ES-EPG1, ES-EPG2) to the Insignificant List
5. Change the daily vs. continuous monitoring of CAM and remove ES-008 from the CAM permit condition. Corning submitted information in the renewal application that documented that ES-008 should not be subject to the CAM requirements.

Application ID No. 6500049.21A:
On March 10, 2021, a Section 502(b)(10) request letter was received by DAQ to introduce a new raw material without an increase in emissions, no impact on particulate matter, and no increase in NC Toxic Air Pollutant emissions. The review for this letter was conducted by Gautam Patnaik with the issuance of TV permit 03809T56 (6500049.21B). However, because that application was a state only modification, processing of the 502(b)(10) modification was not applicable at that time. Therefore, this TV renewal consolidates and closes out that request. After discussing with Carol Yates from Corning Inc (over phone and email) it was clear that the new material did not increase the emissions from the facility. The new material, hydrofluoric acid (HF), was introduced on July 1, 2021. According to Carol Yates, the maximum emissions were less than 0.2 pph (pounds per hour) HF based on the vapor pressure calculations for the new material; 0.5 pph was reduced from available capacity to ensure there would not be an increase in emissions. Therefore, the emission did not exceed the permitted limit.

2. Facility Description

Corning is an optical waveguide manufacturing facility located in Wilmington, New Hanover County, North Carolina. Corning manufactures various types of fiber optic cable. Weak HCl, a by-product, is also sold. There are three main steps to this process. A methane flame oxidizes various metal halides that are deposited as soot on a ceramic rod. This is known as lay down. In consolidation, the treated rod is dried in a Chlorine filled oven to remove moisture. During drawing, the glass rod is slowly heated and drawn into a thin thread. After a special coating is applied, the cable is placed on a spool and then tested to determine if the desired optical properties were achieved. The facility operates on a 24/7/52 schedule with approximately 1,000 employees.

The facility is currently classified as a **Title V** facility because potential emissions of Nitrogen Oxides (NOx) are greater than major source levels. Additionally, the PTE of each individual HAP is greater than 10 tpy and aggregate HAPs are greater than 25 tpy. Hence, Corning is a **Major source for HAP**.

The facility is classified as a **minor source for PSD** Applicability purposes with a PSD avoidance limit for PM and NOx, limiting emissions to less than 250 tpy for each pollutant.

3. History/Background/Application Chronology

History/Background

May 22, 2019	TV permit renewal issued. Air Permit No. 03809T54 issued with an expiration date of April 30, 2024.
February 07, 2020	Air permit No. 03809T55 issued to modify the existing glass drying and tramp fume collection system (ID No. ES-005) with the addition of a new raw material dopant.
January 06, 2022	Air Permit No. 03809T56 issued to add new equipment and increase of raw material dopant throughputs, including the addition of new raw materials. The modification resulted in an increase of North Carolina State Toxic Air Pollutants (TAPs), and therefore a modeling analysis was needed. The new equipment and the new dopants were included in source ES-005 and controlled by either CD-TF-8 or 9.
April 23, 2021	Ashby Armistead conducted inspection at the facility and found the facility likely in compliance.
December 05, 2022	Ashby Armistead conducted inspection at the facility and found the facility likely in compliance.
July 24, 2023	Semi-annual monitoring and recordkeeping summary report was submitted.

Application Chronology

October 16, 2023	Received permit application 6500049.23A for renewal.
October 20, 2023	Sent acknowledgment letter indicating that the application for permit renewal was complete.
February 14, 2024	Draft permit and review forwarded to 1st line Supervisor Mark Cuilla for comments. Mark Reviewed and sent feedback on February 22, 2024. Comments were addressed and sent back to Mark on March 14, 2024 after gathering more information about proposed changes from Carol Yates (applicants) and Ashby Armistead (WRO). Mark suggested edits for permitted emission source table to clarify the equipment list and their description on March 28, 2024

April 2, 2024	Draft permit forwarded to region, applicant and SSCB for comments
April 3, 2024	Received review from Samir Parekh about Corning request to change CAM frequency. Samir confirmed that the current monitoring frequency remains unchanged, but the recording frequency can be changed.
April 18, 2024	Received comments from applicant about the proposed changes in the permitted emission source table. They want to keep their current version (T56) of the table as Corning is more familiar with this version, and it is consistent with their other facilities. After discussing with Mark Cuilla, DAQ also agreed to keep the table unchanged (edited for minor changes). Corning again requested to change the CAM monitoring frequency however SSCB confirmed the monitoring frequency can not be changed. Details added in technical review. Discussed with Carol Yates over phone on May 7th and an updated version was sent back to applicant on May 9, 2024
May 8, 2024	Comments received from Ashby Armistead
May 9, 2024	Edited draft permit forwarded to Applicant
May 13, 2024	Received no comment from Applicant
XXXX, 2024	Draft permit sent to public notice
XXXX, 2024	EPA comment period ends. No comments received.
xxxx, 2024	Permit issued.

4. Permit Modifications/Changes and TVEE Discussion

The following table describes the modifications to the current permit as part of the renewal process.

Page No.	Section	Description of Changes
Cover Letter		Modified to reflect current permit number, issue and effective dates and associated renewal information
--	Throughout permit	Updated all dates and permit revision numbers
--	Cover letter	A notice regarding the right to contest a division of air quality permit decision is added to the renewed permit.
--	Table of Contents	Revised the list to add Insignificant Activities as Section 3 and the General Conditions as Section 4.
3	List of acronyms	Moved from the cover letter in the previous permit to page 3 in the body of the renewed permit.

3	Section 1- Permitted Emission source table	• Removed AOS for source ES-006 • Removed emission source EPG1, EPG2, ES-FP1, ES-FP2, and ES-FP3 • Moved emission source ES-HB to Insignificant Activity list • Removed page nos. column from the table • Removed venting location information is added to the "Emission source Description" Column. • Removed asterisk ** and *** from the table footnote
10	2.1 A	Section 2.1.A.4 of the existing permit reflecting AOS removed
-	2.2 A - throughout	Removed the monitoring, recordkeeping and reporting requirements for fire three pump engines (ES-FP1, ES-FP2, ES-FP3 and generator EPG1 and EPG2, and humidification boiler (ES-HB) as they were moved to insignificant list with most current permitting language.
9	2.1 A.3 c	Updated Monitoring conditions according to the current shell language for control of visible emissions
11	2.1 B.2 c	Updated Monitoring conditions according to the current shell language for control of visible emissions
12	2.1 A. C	• Sources moved to insignificant list and their consequent permit conditions removed from this section • Footnote from this page removed
21	2.1 F	This section was removed as the source moved to insignificant activity list
32	2.3 A b	• Updated CAM requirements • AOS removed from the section
33	2.4	Other applicable requirements updated according to current permit conditions
27	3	• Moved Insignificant Activities list from attachment to Section 3. • Removed the footnote stating the additional information regarding applicability of MACT and GACT. • Fire pumps ES-FP1, ES-FP2, ES-FP3 and Generators ES-EPG1, and ES-EPG2 were added to the insignificant list • NSPS IIII removed for ES-FP3
28	4	Updated General Conditions with the most current version (Version 7.0, 08/21/2023) and moved to Section 4.

This permit renewal is without modification, and no changes to the Title V Equipment Editor are needed. However, equipment ES-HB, IES-EPG1, IES-EPG2, IES-FP1, IES-FP2, and IES-FP3 will be added to insignificant list.

Moving Natural Gas Fired Humidification Boiler (ES-HB) from Source to Insignificant List:
Corning Inc. has one natural gas-fired humidification boiler (ES-HB) which has a capacity of 2.9 million Btu/hr. This boiler was on the insignificant list up until permit number T45. However, a MACT Hammer Application (ID 6500049.09A) was submitted on August 21, 2009, and this source ES-HB was included into permit T46 with 112(j) conditions. As the source qualifies as insignificant and the Permittee kept compliance with the MACT requirements regularly, it can be moved back to

the insignificant list by this renewed Permit. The Permittee was required to complete an initial tune-up and submit a one-time energy assessment by July 19, 2019. The initial tune-up was completed on November 2, 2020. This was a 5-year requirement, and the permittee will continue with this requirement even without having the source in the permit. The energy assessment was completed on November 28, 2017. Corning submitted their NOCS on July 17th, 2019.

The following section is section 2.1F from the existing permit T56 and it is kept here for the record.

The following table provides a summary of limits and standards for the emission source(s) described above:

Pollutant	Limits/Standards	Applicable Regulation
Particulate matter	0.60 pounds per million Btu	15A NCAC 02D .0503
Sulfur dioxide	2.3 pounds per million Btu	15A NCAC 02D .0516
Opacity	20 percent opacity	15A NCAC 02D .0521
PM10	**PSD Avoidance** - facility wide emissions shall not exceed 250 tons per consecutive 12-month period, running monthly total (See Multiple Emissions Sources - Section 2.2 E. 1.)	15A NCAC 02Q .0317 (Avoidance Condition for 15A NCAC 02D .0530)
HAPs	Maximum Achievement Control Technology	40 CFR 63, Subpart DDDDD

1. **15A NCAC 02D .0503: PARTICULATES FROM FUEL BURNING INDIRECT HEAT EXCHANGERS**
   a. Emission of particulate matter from the combustion of natural gas that are discharged from this source **(ID Nos. ES-HB)** into the atmosphere shall not exceed 0.60 pounds per million Btu heat input.

   Testing [15A NCAC 02Q .0508(f)]
   b. If emissions testing is required, the testing shall be performed in accordance General Condition JJ. If the results of this test are above the limits given in Section 2.1 F.1.a above, the Permittee shall be deemed in noncompliance with 15A NCAC 02D .0503.

   Monitoring/Recordkeeping/Reporting [15A NCAC 02Q .0508(f)]
   c. No monitoring/recordkeeping/reporting is required for particulate emissions from the firing of natural gas in this source.

2. **15A NCAC 02D .0516: SULFUR DIOXIDE EMISSIONS FROM COMBUSTION SOURCES**
   a. Emissions of sulfur dioxide from this source **(ID Nos. ES-HB)** shall not exceed 2.3 pounds per million Btu heat input. Sulfur dioxide formed by the combustion of sulfur in fuels, wastes, ores, and other substances shall be included when determining compliance with this standard.

   Testing [15A NCAC 02Q .0508(f)]
   b. If emissions testing is required, the testing shall be performed in accordance with General Condition JJ. If the results of this test are above the limit given in Section 2.1 F.2.a above, the Permittee shall be deemed in noncompliance with 15A NCAC 02D .0516.

   Monitoring/Recordkeeping/Reporting [15A NCAC 02Q .0508(f)]

c. No monitoring/recordkeeping/reporting is required for natural gas from the firing of natural gas in this source **(ID Nos. ES-HB)**.

3. 15A NCAC 02D .0521: CONTROL OF VISIBLE EMISSIONS

a. Visible emissions from this source **(ID Nos. ES-HB)** shall not be more than 20 percent opacity when averaged over a six-minute period. However, six-minute averaging periods may exceed 20 percent 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.

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

b. If emissions testing is required, the testing shall be performed in accordance with General Condition JJ. If the results of this test are above the limit given in Section 2.1 F.3.a above, the Permittee shall be deemed in noncompliance with 15A NCAC 02D .0521.

Monitoring/Recordkeeping/Reporting [15A NCAC 02Q .0508(f)]

c. No monitoring/recordkeeping/reporting is required for visible emissions from the firing of natural gas in this source.

4. 15A NCAC 02D .1111: MAXIMUM ACHIEVABLE CONTROL TECHNOLOGY

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

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

Definitions and Nomenclature [40 CFR 63.7575]

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

40 CFR Part 63 Subpart A General Provisions [40 CFR 63.7565]

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

Compliance Date [40 CFR 63.7510(e), 63.56(b)]

d. The Permittee shall complete the initial tune up and the one-time energy assessment no later than May 20, 2019.

Notifications [40 CFR 63.7545(e),63.7530(e)]

e. The Permittee shall submit a Notification of Compliance Status. The notification must be signed by a responsible official and submitted by July 19, 2019. The notification shall contain the following:
   i. A description of the affected unit including identification of which subcategories the unit is in, the design heat input capacity of the unit, and description of the fuel burned.
   ii. the following certification(s) of compliance, as applicable:

(A) "This facility completed the required initial tune-up for the boiler covered by 40 CFR 63 Subpart DDDDD at the site according to the procedures in 63.7540(a)(10)(i) through (vi)" [i.e., Sections 2.1 F.4.f.i and h.ii]; and
(B) "This facility has had an energy assessment performed according to 40 CFR 63.7530(e)" [i.e., Section 2.1 F.4.g] and is an accurate depiction of the facility at the time of the assessment, or that the maximum number of on-site technical hours specified in the definition of energy assessment applicable to the facility has been expended.

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

f. i. The Permittee shall conduct a tune-up of the boiler every five years as specified below:
(A) As applicable, inspect the burner, and clean or replace any components of the burner as necessary (the Permittee may delay the burner inspection until the next scheduled or unscheduled unit shutdown, but the burner must be inspected at least once every 72 months.
(B) Inspect the flame pattern, as applicable, and adjust the burner as necessary to optimize the flame pattern. The adjustment should be consistent with the manufacturer's specifications, if available.
(C) Inspect the system controlling the air-to-fuel ratio, as applicable, and ensure that it is correctly calibrated and functioning properly (you may delay the inspection until the next scheduled unit shutdown).
(D) Optimize total emissions of CO. This optimization should be consistent with the manufacturer's specifications, if available, and with any NO_X requirement to which the unit is subject.
(E) Measure the concentrations in the effluent stream of CO in parts per million, by volume, and oxygen in volume percent, before and after the adjustments are made (measurements may be either on a dry or wet basis, as long as it is the same basis before and after the adjustments are made). Measurements may be taken using a portable CO analyzer.
[63.7500(a), (e), 63.7540(a)(10), (a)(12)]

ii. Each 5-year tune-up shall be conducted no more than 61 months after the previous tune-up. [63.7515(d)]

iii. If the unit is not operating on the required date for a tune-up, the tune-up must be conducted within 30 calendar days of startup. [63.7540(a)(13), 63.7515(g)]

iv. At all times, you must operate and maintain any affected source, including associated air pollution control equipment and monitoring equipment, in a manner consistent with safety and good air pollution control practices for minimizing emissions. Determination of whether such operation and maintenance procedures are being used will be based on information available to the Administrator that may include, but is not limited to, monitoring results, review of operation and maintenance procedures, review of operation and maintenance records, and inspection of the source.[63.7500(a)(3)]

v. The Permittee shall be deemed in noncompliance with 15A NCAC 02D .1111 if the requirements in Section 2.1 F.4.f are not met.

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

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

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

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

h. The Permittee shall keep the following:
   i. A copy of each notification and report submitted to comply with this subpart, including all documentation supporting any Initial Notification or Notification of Compliance Status, or 5-year compliance report that has been submitted, according to the requirements in 63.10(b)(2)(xiv). [63.7555(a)(1)]
   ii. Maintain on-site and submit, if requested by the Administrator, a report containing the information in paragraphs (A) through (C) below:
      (A) The concentrations of carbon monoxide in the effluent stream in parts per million by volume, and oxygen in volume percent, measured at high fire or typical operating load, before and after tune-up of the boiler;
      (B) A description of any corrective actions taken as a part of the tune-up; and
      (C) The type and amount of fuel used over the 12 months prior to the tune-up, but only if the unit was physically and legally capable of using more than one type of fuel during that period. Units sharing a fuel meter may estimate the fuel use by each unit. [63.7540(a)(10)(vi)]
   iii. The associated records for Sections 2.1 F.4.f through g above.

i. The Permittee shall:
   i. maintain records in a form suitable and readily available for expeditious review;
   ii. keep each record for 5 years following the date of each occurrence, measurement, maintenance, corrective action, report, or record; and
   iii. keep each record on site for at least 2 years after the date of each occurrence, measurement, maintenance, corrective action, report, or record. The Permittee can keep the records offsite for the remaining 3 years.

   [63.7560, 63.10(b)(1)]

j. The Permittee shall be deemed in noncompliance with 15A NCAC 02D .1111 if records are not maintained as described in Sections 2.1 F.4.h through above.

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

k. The Permittee shall submit compliance reports to the DAQ on a 5-year basis. The first report shall cover the period beginning on May 20, 2019 and ending on December 31, 2023 . Subsequent 5-year reports shall cover the periods from January 1 to December 31. The Permittee shall submit the compliance reports postmarked on or before January 30 for the preceding reporting period.[63.7550(a), (b)]
   i. The compliance report must also be submitted electronically via the Compliance and Emissions Data Reporting Interface (CEDRI). CEDRI can be accessed through the EPA's Central Data Exchange (CDX) (https://cdx.epa.gov/).) You must use the appropriate electronic report in CEDRI for this subpart. Instead of using the electronic report in CEDRI for this subpart, you may submit an alternate electronic file consistent with the XML schema listed on the CEDRI Web site (http://www.epa.gov/ttn/chief/cedri/index.html), once the XML schema is available. If the reporting form specific to this subpart is not available in CEDRI at the time that the report is due, you must submit the report to the Administrator at the appropriate address listed in 63.13. You must begin submitting reports via CEDRI no later than 90 days after the form becomes available in CEDRI. [63.7550(h)(3)]

l. The compliance report must contain the following information:

i. Company name and address;
ii. Process unit information, emissions limitations, and operating parameter limitations;
iii. Date of report and beginning and ending dates of the reporting period;
iv. Include the date of the most recent tune-up for each unit required according to Section 2.1 F.4.f. Include the date of the most recent burner inspection if it was not done on a 5-year basis and was delayed until the next scheduled or unscheduled unit shutdown.
v. Statement by a responsible official with that official's name, title, and signature, certifying the truth, accuracy, and completeness of the content of the report.

[63.7550(a) and (c), Table 9]

m. The Permittee shall be deemed in noncompliance with 15A NCAC 02D .1111 if the reporting requirements in Section 2.1 F.4.k through l above are not met.

5. Regulatory Review

Corning Incorporated is subject to following regulations:

- 02D .0515: Particulates from Miscellaneous Industrial Processes
- 02D .0516: Sulfur Dioxide Emissions from Combustion Sources
- 02D .0521: Control of Visible Emissions
- 02D .0614: Compliance Assurance Monitoring (40 CFR Part 64, CAM Rule)
- 02D .1100: Control of Air Toxic Air Pollutants (State-enforceable only)
- 02D .1111: Maximum Achievable Control Technology (40 CFR 63, Subpart ZZZZ)
- 02D .1806: Control and Prohibition of Odorous Emissions (State-enforceable only)
- 02Q .0317: Avoidance Conditions (for 15A NCAC 02D .0530, Prevention of Significant Deterioration)
- 02Q .0711: Emission Rates Requiring a Permit (state-enforceable only)

- 15A NCAC 02D .0515: Particulates from Miscellaneous Industrial Processes - This rule applies to stacks, vents, or outlets emitting particulates from industrial processes with no other applicable standards. The allowable emission rate is in terms of pounds per hour and is calculated using the following equations:

  For process rates up to 30 tons per hour:
  $E = 4.10(P)^{0.67}$

  For process rates greater than 30 tons per hour:
  $E = 55.0(P)^{0.11} - 40$

  Where: E = Allowable emission rate in pounds per hour
  P = Process weight in tons per hour

  The following emission sources are subject to 02D .0515:
  - Glass modification process (**ID No. ES-011)** and associated oxidizers (**ID Nos. CD-OX1, CD-OX2, CD-OX3, CD-OX4, CD-OX5, and CD-OX6)** and filters (**ID Nos.CD-HFS-1, CD-BH-7**) – Compliance is demonstrated by inspections and maintenance as recommended by the manufacturer, monthly visual inspection of ductwork, and annual the cartridge filters' inspection maintenance, recordkeeping and reporting.
  - Chemical vapor deposition process (ID No. **ES-002, ES-004, ES-006, ES-007, and ES-008**) with associated fabric filters (**CD-BH-1, CD-BH-2, CD-BH-3**, **CD-BH-9, CD-BH-5, and CD-BH-6**) and scrubbers (**CD-HCL-5, CD-HCL-6, CD-HCL-7, HCL-8, CD-HCL-9**) -

Compliance is demonstrated by inspections and maintenance as recommended by the manufacturer, monthly visual inspection of ductwork, and annual the cartridge filters' inspection maintenance, recordkeeping, and reporting.

No further changes to the 02D .0515 permit condition in the permit, outside of changes made to reflect current permit shell language, with respect to this rule are necessary as part of this renewal. Continued compliance with this regulation is expected.

- 15A NCAC 02D .0516: Sulfur Dioxide Emissions from Combustion Sources -This regulation applies to any source of combustion that emits sulfur dioxide, which is formed by the combustion of sulfur in fuels, wastes, ores, and other substances. Sources subject to this standard have an emission limit of 2.3 pounds of sulfur dioxide per million BTU heat input. There are multiple emission sources subject to this regulation: glass modification process (ID. **ES-011**), chemical vapor deposition process (**ES-002, ES-004, ES-006, ES-007, ES-008**), and emergency generators (**ES-EPG3, ES-EPG4**). Natural gas is combusted in the boiler and the optical wavelength laydown process and diesel fuel is combusted in the emergency generators and fire pumps, resulting in operation well below regulatory limit.

  No additional changes to the 02D .0516 condition in the permit are required as a part of this renewal. Continued compliance with this regulation is expected.

- 15A NCAC 02D .0521: Control of Visible Emissions - Sources manufactured after July 1, 1971, have a visible emissions limit of 20 percent opacity when averaged over a 6-minute period. The 6-minute averaging periods may exceed 20 percent if no 6-min period exceeds 87 percent opacity, no more than one six-minute period exceeds 20 percent opacity in one hour, and no more than four 6-minute periods exceed 20 percent in any 24-hour period. Continued compliance with this standard is demonstrated by conducting either daily, weekly, or monthly stack observations.

  Multiple emission sources are subject to this regulation. There are no changes to the 02D .0521 permit condition as a part of this renewal. Continued compliance with this regulation is expected.

- 02D .1100: Control of Air Toxic Air Pollutants (State-enforceable only) - The Permittee shall not exceed the toxic emission limits specified in the permit. Please, see Section 8 of this Document for detailed information.
  There are no changes to the 02D .1100 permit condition as a part of this renewal. Continued compliance with this regulation is expected.

- 02D .1111: Maximum Achievable Control Technology (40 CFR 63, Subpart ZZZZ) – see section 6 of this Document for detailed information.

- 02D .1806: Control and Prohibition of Odorous Emissions (State-enforceable only) - This facility is subject to this regulation, which addresses control and prevention of objectionable odors from extending beyond the facility's boundary. There is no history of complaints concerning odors associated with this facility.
  There are no changes to the 02D .1806 permit condition as a part of this renewal. Continued compliance with this regulation is expected.

- 02Q .0317: Avoidance Conditions (for 15A NCAC 02D .0530, Prevention of Significant Deterioration) – There are two facility wide permit conditions to limit PM10 and NOx emissions to less than 250 tons per year each. This permit avoidance and site compliance status will not change as a result of this renewal. Continued compliance with this regulation is expected.

- 02Q .0711: Emission Rates Requiring a Permit (State-enforceable only) - See section 7 of this Document for detailed information.

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

NSPS

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

According to the existing permit T56, the diesel-fired emergency fire pump (ES-FP3) is subject to the New Source Performance Standards (NSPS) Subpart IIII "Standards of Performance for Stationary Compression Ignition Internal Combustion Engines". But application 6500049.23A mentioned that the fire pump has a name plate dated 1984, hence the pump should only be subject to 40 CFR 63, Subpart ZZZZ not Subpart IIII. Therefore, NSPS applicability has been removed as part of this renewal.

NESHAP/MACT

40 CFR 63 Subpart ZZZZ

This facility is a major source of HAPs with the potential to emit 10 tpy of multiple HAPs, including hydrogen chloride, chlorine and hydrogen fluoride. 40 CFR Part 63, Subpart ZZZZ "National Emission Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines (RICE)" applies to the three diesel-fired emergency generators (ID Nos. ES-EPG1, ES-EPG2, and ES-EPG3). Pursuant to 40 CFR 63.6590(b)(3)(iii), the three diesel-fired emergency generators do not have to meet the requirements of 40 CFR 63 Subpart ZZZZ and of Subpart A, including initial notification requirements. Emergency fire pumps (ID Nos. ES-FP1, ES-FP2, and ES-FP3) are also subject to 40 CFR Part 63, Subpart ZZZZ. Pursuant to 40 CFR 63.6590(c)(6), ES-FP3 must meet the requirements of 40 CFR 63 Subpart ZZZZ.

40 CFR 63 Subpart DDDDD

Boiler (ID Nos. ES-HB) is subject to 40 CFR 63, Subpart DDDDD "National Emission Standards for Hazardous Air Pollutants for Major Sources: Industrial, Commercial, and Institutional Boilers and Process Heaters" and Subpart A "General Provisions. This boiler fires natural gas. The Permittee completed the initial tune up and the one-time energy assessment on November 28, 2017. The facility submitted a Notification of Compliance Status to the DAQ on July 17, 2019. For (ID Nos. ES-HB), each annual tune-up shall be conducted every five years. This permit renewal does not affect this status.

PSD

The facility currently has facility wide NOx and PM-10 emissions limit of less than 250 tons per year to avoid PSD applicability. Therefore, the facility is classified as a PSD MINOR and the PSD Status on the cover letter notes this status.

Attainment Status

This facility is in New Hanover County which in attainment for all criteria pollutants.

112(r)

This facility is subject to Section 112(r) of the Clean Air Act, because it does store at least one of the substances (chlorine) regulated by this Rule in amounts above the thresholds.

The last RMP update was submitted on January 28, 2021. The next update is due on January 28, 2026. This renewal will have no effect on the current RMP of the site.

CAM

The Compliance Assurance Monitoring (CAM) Rule (40 CFR Part 64) applies to pollutant-specific emissions units (PSEU) that are pre-control major sources and use a control device to comply with an emissions limit.

The current permit contains a version of continuous monitoring in Permit Condition No. 2.3 A.b. This continuous monitoring requires one pressure drop reading per hour (24 readings per day). This renewal application requests to change monitoring frequency from continuous to daily. In accordance with 40 CFR 64.7(c), the monitoring frequency remains continuous as per 40 CFR 64.7(c) i.e. monitoring device is in continuous operation at all times that the emission unit is operating. As requested by Corning Inc., and as per 40 CFR 64.3(b)(4)(III), for small emission unit, the recording frequency is reduced from continuous to once per day (24-hour period). Corning will continue to operate the pressure drop monitoring system to tabulate data more frequently than daily. However, compliance with CAM is based on collecting a minimum of one pressure drop reading per day, which can be manual if there are operating issues with the pressure drop monitoring system. If there is an issue with the (pressure drop) monitoring system when the emission unit is in operation, it is reported as monitor downtime as per reporting requirement of 40 CFR 64.9(a)(2)(ii).

Corning also requested to remove ES-008 from the CAM permit condition. Corning provided information in the permit renewal application that this emission source ES-008 has emissions below the CAM applicability requirements. ES-008 will be removed from the CAM permit condition. Monitoring, recordkeeping and reporting will revert back to the requirements within Permit Condition No. 2.1-A.1.d through h. Since this ES-008 has a pressure drop recording system, Corning will:

1. Continue to operate the pressure drop recording system with no CAM limit; and
2. In the event of a failure of the pressure drop recording system, conduct a daily manual pressure drop recording.

Emission sources (ES-002, ES-004, ES-006 and ES-007) at this facility are currently subject to CAM. There are no other emission sources subject to CAM. No new control devices have been added since the previous CAM applicability determination. Continued compliance is expected.

7. Facility Wide Air Toxics

Corning is subject to the state-enforceable only 02D .1100 and 02Q .0711 conditions. This renewal does not trigger a review under this program because there are no expected increases for any TAPs.

In order to comply with 02Q .0711, Corning must not emit any of the pollutants listed in the permit above their respective TPER. Therefore, no additional modeling or changes to the TPER list are required.

The current modeling and the modeling review was approved by DAQ's meteorologist Ms. Nancy Jones on July 15, 2021, and demonstrated compliance on a source-by-source basis for all toxics modeled. This date has been documented in the 02D .1100 condition.

8. Facility Emissions Review

The facility-wide potential emissions are not expected to change under this TV permit renewal. Actual emissions for criteria pollutants and HAPs for the years 2018 through 2022 are provided in the header of this permit review.

9. Compliance Status

DAQ has reviewed the compliance status of Corning Inc. During the most recent inspection, conducted on December 5th, 2022, by Mr. Ashby Armistead of the Wilmington Regional Office, the facility appeared to be in compliance with its current Air Permit No. 03809T56.

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

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

11. Other Regulatory Considerations

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

12. Recommendations

The permit renewal application for Corning Incorporated, LLC. located in Wilmington, New Hanover County, North Carolina has been reviewed by DAQ to determine compliance with all

procedures and requirements. DAQ has determined this facility is complying or will achieve compliance, as specified in the permit, with all requirements that are applicable to the affected sources. DAQ recommends the issuance of Air Permit No. 03809T57.