NORTH CAROLINA DIVISION OF AIR QUALITY

Application Review

Issue Date: TBD

Region: Fayetteville Regional Office
County: Scotland
NC Facility ID: 8300027
Inspector's Name: Gregory Reeves
Date of Last Inspection: 05/03/2018
Compliance Code: 3 / Compliance - inspection

Facility Data

Applicant (Facility's Name): Pilkington North America, Inc.

Facility Address:
Pilkington North America, Inc.
13121 South Rocky Ford Road
Laurinburg, NC 28352

SIC: 3211 / Flat Glass
NAICS: 327211 / Flat Glass Manufacturing

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

Permit Applicability (this application only)

SIP: 02D: .0503, .0515, .0516, .0521, .0530, .0614, .1100, .1109, .1111, .1806, .2100
02Q: .0317, .0711
NSPS: n/a
NESHAP: Subpart ZZZZ
PSD: PM10, SO_2
PSD Avoidance: fluorides
NC Toxics: 02D .1100, 02Q .0711
112(r): RMP required
Other: Removed 02D .0958

Contact Data

Facility Contact	Authorized Contact	Technical Contact
Rolland Waters Environmental Manager (910) 277-2240 13121 South Rocky Ford Road Laurinburg, NC 28352	Christopher Miller Plant Manager (910) 277-2103 13121 South Rocky Ford Road Laurinburg, NC 28352	Pamela Rygalski Environmental Affairs, PNA (419) 247-3715 140 Dixie Highway Rossford, OH 43460

Application Data

Application Numbers: 8300027.14A & 18A
Date Received: 03/27/2018
Application Type: Renewal
Application Schedule: TV-Renewal

Existing Permit Data
Existing Permit Number: 03873/T33
Existing Permit Issue Date: 01/08/2014
Existing Permit Expiration Date: 12/31/2018

Total Actual emissions in TONS/YEAR:

CY	SO2	NOX	VOC	CO	PM10	Total HAP	Largest HAP
2016	393.02	3727.60	36.93	35.02	230.10	28.62	22.76 [Hydrogen chloride (hydrochlori]
2015	396.96	3646.24	40.47	40.06	232.78	31.99	25.88 [Hydrogen chloride (hydrochlori]
2014	397.15	3750.18	39.65	40.30	232.71	40.00	33.56 [Hydrogen chloride (hydrochlori]
2013	362.31	3509.61	37.70	45.00	231.64	28.91	22.85 [Hydrogen chloride (hydrochlori]
2012	346.04	3728.17	36.74	44.47	237.17	26.74	20.88 [Hydrogen chloride (hydrochlori]

Review Engineer: Russell Braswell

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

Comments / Recommendations:
Issue 03873/T34
Permit Issue Date: TBD
Permit Expiration Date: TBD

1. Purpose of Application:

- *.18A:*

  Pilkington North America, Inc. (Pilkington) currently owns and operates a facility in Scotland County, NC. This facility operates under Title V Air Quality Permit 03873T33. This permit is currently set to expire on December 31, 2018. Pilkington submitted this permit application in order to renew the existing permit. Because this application was received at least six months before the expiration date, the existing permit will remain in effect, regardless of expiration date, until this application is processed.

- *.14A:*

  Pilkington requested to replace an existing emergency-use generator with a rebuilt, same-year and model generator. The existing generator required substantial maintenance and the expense of the needed maintenance was prohibitive. Pilkington submitted this application to demonstrate that this planned replacement should not trigger NSPS applicability and should remain an "existing" source under the MACT.

  This application was submitted pursuant to 15A NCAC 02Q .0502(b)(10). DAQ responded with confirmation on November 3, 2014.

2. Facility Description:

This facility manufactures flat glass using the "float glass" technique. The facility consists of two gas-fired furnaces, a proprietary "Low-E" glass manufacturing process, raw materials mixing and handling operations, and finished glass handling operations. The glass furnaces at this facility were constructed before the applicability date of NSPS Subpart CC. The facility operates on a 24/365 schedule.

3. History/Background Since the Previous Permit Renewal:

The permit was most recently renewed on January 8, 2014. In addition, that permit action completed the second part of a 02Q .0501(c)(2) application. Pilkington had originally intended to install a new vapor-deposition glass coating line, but ultimately decided to not install that source.

No changes to the permit have been made since the previous renewal.

4. Application Chronology:

- March 27, 2014 — Application .14A received in Raleigh Central Office. Because it was classified as a 02Q .0502(b)(10) change, this application was put on hold until another permit application was received (e.g. a renewal application).
- April 2, 2018 — Application .18A received in Raleigh Central Office.
- May 15, 2018 — An initial draft of the permit and technical review were sent to DAQ staff (Tom Anderson, Mark Cuilla, Samir Parekh, Greg Reeves) and Pilkington staff (Pamela Rygalski, Phil Waters). For a summary of comments received, see Attachment 2.
- June 14 – 15, 2018 — Email discussion with Phil Waters regarding filter area of CD-03ca and CD-03g.

- XXXXX Public / EPA notice

- XXXXX Permit issued.

5. Permit Modifications/Changes and TVEE Discussion:

- Added a permit condition for MACT Subpart DDDDD.
- Added a transition date for the Case-by-Case MACT.
- Moved emergency generators to the Insignificant Activities list.

The list of changes to the permit can be found in Attachment 1.

6. Regulatory Overview:

Pilkington is subject to the following State Implementation Plan (SIP) and Federal regulations, in addition to the requirements in the General Conditions:

- 15A NCAC 02D .0503 "Particulates from Fuel Burning Indirect Heat Exchangers"
- 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 .0530 "Prevention of Significant Deterioration"
- 15A NCAC 02D .0614 "Compliance Assurance Monitoring"
- 15A NCAC 02D .1100 "Control of Toxic Air Pollutants"
- 15A NCAC 02D .1109 "112(j) Case-by-Case Maximum Achievable Control Technology"
- 15A NCAC 02D .1111 "Maximum Achievable Control Technology"(40 CFR Part 63, Subpart DDDDD)
- 15A NCAC 02D .1806 "Control and Prohibition of Odorous Emissions"
- 15A NCAC 02D .2100 "Risk Management Program"
- 15A NCAC 02Q .0317 "Avoidance Conditions" (PSD Avoidance)
- 15A NCAC 02Q .0711 "Emission Rates Requiring a Permit"
- 40 CFR Part 63, Subpart ZZZZ

An extensive review for the following applicable regulations is not included in this document: 02D .0503, .0515, .0516, and .0521. The facility's status with respect to these regulations has not changed. The permit will be updated to reflect the most current stipulations for all applicable regulations.

For a review of permit changes and an explanation of rules included (or not included) in the permit, see Section 7, below.

7. Rules Review

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

1. Subpart Dc "Small Industrial-Commercial-Institutional Steam Generating Units"

This rule applies to boilers with a heat input capacity between 10 and 100 MMBtu/hr and that were constructed or modified after June 9, 1989.

Each of the boilers at this facility have heat inputs less than 10 MMBtu/hr. Therefore, this rule does not apply to any source at this facility.

2. *Subpart CC "Glass Manufacturing Plants"*

   This rule applies to glass melting kilns that were constructed and/or modified after June 15, 1979. Both of the glass melting kilns at this facility were constructed before this date, and neither have undergone a modification that meets the definition of "modification" under 40 CFR Part 60. Therefore, this rule does not apply to this facility.

3. *Subpart IIII "Stationary Compression Ignition Internal Combustion Engines"*

   This rule applies to stationary CI engines installed after July 11, 2005. Each emergency-use generator at this facility was installed before that date, so this rule does not apply.

   In the .14A application, the facility requested to replace an existing engine of generator IEG2 (manufactured in 1979) with a same-model rebuilt engine. The facility requested this because the cost of repairing the existing engine in-place and the cost of a brand-new engine and generator were prohibitively expensive. The application showed the projected cost of each action and demonstrated that installing a rebuilt engine would not constitute "reconstruction" because the cost of the project was less than 50% of the cost of installing a brand-new engine.

b. Maximum Available Control Technology (MACT; 40 CFR Part 63)

This facility is a Major Source for hazardous air pollutant (HAP) emissions. Rules that apply specifically to Area Sources (e.g. Subpart JJJJJJ and SSSSSS) do not apply to this facility by definition.

1. *Subpart ZZZZ "Stationary Reciprocating Internal Combustion Engines"*

   This rule applies to all stationary internal combustion engines.

   The requirements of this rule depend on several factors: engine capacity, manufacture date, HAP-Major/Minor, etc. For the purposes of this rule, all of the engines at this facility are:

   a) Existing;
   b) HAP-Major;
   c) Emergency use;
   d) Between 100 and 500 horsepower;
   e) Diesel-fired/compression ignition; and
   f) Uncontrolled.

   For these engines, the general requirements of the rule are to only operate during periods of maintenance or emergency, perform regular maintenance and oil changes and to operate according to manufacturer's specifications. The facility is expected to continue to comply with this rule.

   Note that, for this facility, this rule only applies to sources on the list of insignificant activities. Therefore, there will not be a permit condition for this rule. Nevertheless, the facility must still comply with this rule.

   Based on the most recent inspection report, the facility appears to be in compliance with this rule.

2. *Subpart DDDDD "Major Sources: Industrial/Commercial/Institutional Boilers and Process Heaters"*

   This rule applies to boilers and process heaters located at HAP-Major sources.

This rule defines a "process heater" as a unit that exchanges heat from combustion gasses to another media indirectly (i.e. combustion gasses do not come in contact with the object being heated). The glass kilns are direct-fired, and therefore do not meet the definition of process heater.

The only sources at this facility subject to this rule are the three natural gas-fired boilers. Under this rule, these boilers are considered:

a) Existing;
b) Designed to burn "gas 1" fuels; and
c) Heat input less than 5 MMBtu per hour.

For such boilers, the rule requires a tune up once per five years, a one-time initial energy assessment, and good work practices. The facility must keep records of maintenance and monitoring activities, and the rule requires a five-year compliance report.

A specific condition for this rule has been added to the permit. Note that the applicability date for this rule is May 20, 2019 because the facility is currently complying with the Case-by-Case MACT instead. See Section 7.b.3. for details.

Compliance with this rule will be determined during subsequent inspections after the initial compliance date.

3. 112(j) Case-by-Case MACT for Boilers and Process Heaters

North Carolina implemented the Case-by-Case MACT (CBCM) for boilers after the initial MACT Subpart DDDDD was vacated by court order. As implemented, this rule applies to boilers located at HAP-Major sources and the requirements are based on the fuel type and design of the boiler.

US EPA has promulgated a new version of MACT Subpart DDDDDD. Based on the requirements of Section 112(j) of the Clean Air Act, the CBCM will remain in effect until May 20, 2019. After that date, all sources subject to the CBCM will comply with the MACT instead.

For the boilers at this facility, the rule requires an annual tune-up of each boiler and to operate with good work practices.

The permit condition has been modified to include a paragraph regarding the expiration of this rule.

Based on the most recent inspection report, the facility appears to be in compliance with this rule.

c. Prevention of Significant Deterioration (PSD)

This facility has undergone a PSD review which established BACT limits for some sources at the facility. In addition, the facility is currently avoiding a new PSD review by limiting fluoride emissions from the "Low-E glass" operation. Based on the most recent inspection report, the facility appears to be in compliance with both the PSD and PSD avoidance requirements.

1. PSD Limits

The 1979 PSD review for the facility established BACT limits for PM from the material handling sources and PM and SO_2 from Kiln #2. In order to demonstrate compliance with the BACT limits,

the facility must operate the PM control devices associated with the material handling sources, and perform a biennial compliance demonstration on Kiln #2.

The facility most recently performed emission testing on March 13, 2018. This test is still under review by Stationary Source Compliance Branch.

2. *02Q .0317 "Avoidance Conditions" (PSD Avoidance)*

The facility avoided a new PSD review on the Low-E process by limiting fluoride emissions. The facility operates a thermal oxidizer and limits total fluoride input to the process.

d. Section 112(r) of the Federal Clean Air Act

This facility is required to develop and maintain a Risk Management Plan (RMP) because it stores materials on-site in quantities greater than the thresholds listed in Section 112(r) of the Clean Air Act.

The facility most recently updated the RMP on September 3, 2014. Generally, an update to the plan is required every five years.

The facility was inspected for compliance with the RMP on August 15, 2017. The facility appeared to be in compliance with the RMP at that time.

e. Reasonably Available Control Technology (RACT)

The facility is not located in an area of ozone nonattainment, therefore RACT does not apply.

f. Compliance Assurance Monitoring (CAM; 40 CFR Part 64)

CAM applies to a control device if the following criteria are met:

1. The unit being controlled is subject to a non-exempt emission standard (as defined by 02D .0614(b)(1)),
2. The control device is being used to comply with the emission standard, and
3. The unit being controlled has potential emissions of the pollutant subject to the emission standard of greater than major source thresholds.

This facility uses control devices to control PM and fluoride emissions. The table below compares emission limits with the criteria for CAM:

Emission Limit	Pollutant	Triggers CAM?	Notes
02D .0515	PM	Yes	*
02D .0530	PM	Yes	*,**
02Q .0317	Fluorides	No	02D .0614(b)(1)(E)
02D .1100	TAPs	No	TAPs do not have a major source threshold

* For each source with potential PM emissions greater than 100 ton/yr.
** The permit condition for 02D .0530 has a limit for SO_2, but the facility does not use control devices to comply with it.

The facility has developed and submitted a CAM plan for each source that requires one. The CAM plans rely on pressure drop across a bagfilter as the primary indicator, and visible emissions as a secondary indicator.

g. Other SIP/FIP Rules

1. 15A NCAC 02D .0958 "Work Practices for Sources of Volatile Organic Compounds"

Per 02D .0902(f), this rule only applies to sources located in areas of ozone nonattainment. Scotland county is not such an area, and therefore this rule does not apply. References to this rule have been removed from the permit.

2. 15A NCAC 02D .1110 "National Emission Standards for Hazardous Air Pollutants" and 40 CFR Part 61, Subpart N "Inorganic Arsenic Emissions From Glass Manufacturing Plants"

Part 61 Subpart N applies to facilities that produce glass using "commercial arsenic" as a raw material. This facility does not use commercial arsenic, so Subpart N does not apply.

8. Toxic Air Pollutants (TAPs)

This facility has performed TAP emission modeling in order to demonstrate compliance with the acceptable ambient limits (AALs) listed in 02D .1100. The emission rates used in the models were incorporated into the permit as emission limits. For TAPs that do not contain fluoride, the emission limits are greater than the facility's potential emission rate, so no monitoring or recordkeeping is required for those pollutants. For TAPs that do contain fluoride, the facility demonstrates compliance with the emission limits by limiting the total amount of fluoride-containing materials and by operating control devices.

In addition to the modeled emission rates, this facility emits several TAPs at rates that do not require a modeling demonstration. These pollutants are listed in the permit under a condition for 02Q .0711. No specific monitoring or recordkeeping is required to demonstrate compliance with 02Q .0711.

This renewal does not trigger a new TAP emission review.

9. Facility Emissions Review

This permit renewal is not expected to change potential emissions from the facility.

For a historical review of actual emissions from the facility, see the summary table on the first page of this review.

10. Compliance Status

a. Notices of Violation/Recommendation for Enforcement since the previous renewal

None.

b. Inspection status

The facility was most recently inspected by Gregory Reeves on May 3, 2018. The facility appeared to be in compliance with the permit at that time.

11. Other Regulatory Concerns

A PE seal was not required for this permit renewal.

A zoning consistency form was not required for this permit renewal.

12. 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 pursuant 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. South Carolina is an affected State program within 50 miles of the facility.

The Public Notice and EPA Review periods began on XXXXXXXXX

13. Recommendations

Issue permit 03873T34.

Attachment 1 to review of 8300027.18A
Pilkington North America, Inc.

Change List

Insert change list from final permit

Attachment 2 to review of application 8300027.18A
Pilkington North America, Inc.

Comments Received on Initial Draft

- Greg Reeves, by email on May 17, 2018

  The email indicated several typos in the draft permit.

  Response: The indicated issues have been fixed.

- Samir Parekh, by email on May 24, 2018

  The email suggested that the CAM plan (Section 2.3 B.1) also contain specific reporting language in 40 CFR 64.9.

  Response: I have included the suggested language.

- Mark Cuilla, by email on June 8, 2012

  a. The draft permit contains several typos.

     Response: The indicated issues have been fixed.

  b. The draft permit doesn't specify the filter area of control devices CD-03ca and CD-03g. Is this data available?

     Response: I posed this question to Phil Waters (environmental manager for Pilkington). He stated that the facility wants to have some flexibility the size and number of bags in these specific filters. I suggested that the permit include a recordkeeping requirement regarding the size of the filter areas. He agreed with the suggestion in an email on June 15, 2018.

  c. The CAM plan in the draft permit contains two indicators. Can one be removed?

     Response: I made this suggestion to Samir Parekh, (DAQ, Technical Services Section). He stated that one indicator could be used only if there was a bag leak detection system or COMS in use at the facility. Because no such system is used, two indicators should be included in the CAM plan.

  d. The draft permit review is unclear regarding application .14A. What type of application was it? What response was initially sent?

     Response: I have included this information in the permit review.