NORTH CAROLINA DIVISION OF AIR QUALITY

Application Review

Issue Date: DRAFT

Region: Mooresville Regional Office
County: Catawba
NC Facility ID: 1800419
Inspector's Name: Joe Foutz
Date of Last Inspection: 08/16/2023
Compliance Code: 3 / Compliance - inspection

Facility Data

Applicant (Facility's Name): Prysmian Cables and Systems USA, LLC

Facility Address:
Prysmian Cables and Systems USA, LLC
2512 Penny Road
Claremont, NC 28610

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: N/A
NSPS: N/A
NESHAP: N/A
PSD: N/A
PSD Avoidance: N/A
NC Toxics: N/A
112(r): N/A
Other: N/A

Contact Data

Facility Contact	Authorized Contact	Technical Contact
Rick Miller Environmental Safety Manager (828) 459-8668 2512 Penny Road Claremont, NC 28610	Sujeet Rao Industrial Excellence Senior Manager (828) 459-8668 2512 Penny Road Claremont, NC 28610	Rick Miller Environmental Safety Manager (828) 459-8668 2512 Penny Road Claremont, NC 28610

Application Data

Application Number: 1800419.23A
Date Received: 11/15/2023
Application Type: Modification
Application Schedule: TV-Sign-501(b)(2) Part II

Existing Permit Data
Existing Permit Number: 07334/T30
Existing Permit Issue Date: 05/18/2022
Existing Permit Expiration Date: 11/30/2024

Total Actual emissions in TONS/YEAR:

CY	SO2	NOX	VOC	CO	PM10	Total HAP	Largest HAP
2022	0.7700	303.97	31.72	3.04	11.28	20.43	16.43 [Chlorine]
2021	0.7600	303.83	42.40	3.35	11.55	20.06	16.90 [Chlorine]
2020	0.7400	272.04	31.62	3.00	10.88	13.88	11.83 [Chlorine]
2019	0.6700	237.48	35.22	2.94	10.16	13.38	10.74 [Chlorine]
2018	0.6500	242.81	32.43	2.61	8.73	14.45	11.83 [Chlorine]

Review Engineer: Connie Horne

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

Comments / Recommendations:
Issue 07334/T31
Permit Issue Date: DRAFT
Permit Expiration Date: November 30, 2024

1. Purpose of Application

This permit action is for Part II of a two-step process allowed under 15A NCAC 02Q .0501(b)(2). The Rule states:

(c) With the exception in Paragraph (d) of this Rule, the owner or operator of an existing facility, new facility, or modification of an existing facility (except for minor modifications under Rule .0515 of this Section), including significant modifications that would not contravene or conflict with a condition in the existing permit, subject to the requirements of this Section shall not begin construction without first obtaining:

(1) a construction and operation permit following the procedures under this Section (except for Rule .0504), or
(2) a construction and operation permit following the procedures under Rule .0504 and filing a complete application within 12 months after commencing operation to modify the construction and operation permit to meet the requirements of this Section.

The Permittee submitted an application for a significant 501(b)(2) Part I permit (1800419.21A) on September 8, 2021. The Part I permit was issued on May 18, 2022 and included the following permit modifications.

- Addition of overcladding units consisting of deposition machines (ES-12) and sintering operations (ES-13) venting to a new common stack 3_5WS.
- Addition of an alternate operating scenario for sources ES-9 and ES-9a.

On November 15, 2023, DAQ received this Part II application (1800419.23A) from Prysmian Cables and Systems USA, LLC to complete the process to include the above-listed changes as required in condition 2.1 A.4 of Permit 07334T30. According to this application, the proposed primary operation scenario for ES-9 and ES-9a began upon issuance of 07334T30. Testing began on overcladding units ES-12 and ES-13 in September 2023 with operation beginning in October/November 2023. The technical review for the Part I application (1800419.21A) is attached to this document.

2. Facility Description

Prysmian Cables and Systems USA, LLC (Prysmian), owns and operates an optical fiber manufacturing plant (Fiber Plant) and a fiber optic cable manufacturing plant (Cable Plant) at 2512 Penny Road in Claremont, Catawba County, North Carolina. The SIC for the facility is 3229 (Glassware Manufacturing). The facility is currently operating in accordance with NC Department of Environmental Quality (DEQ) Title V Permit No. 07334T30 issued on May 18, 2022.

3. Application Chronology

November 15, 2023	Part II application received.
November 16, 2022	Sent acknowledgment letter. Application complete.
January 9, 2024	Draft to applicant and regional office
January 9, 2024	Draft to public notice and EPA
February 8, 2024	Public comment period ends
February 22, 2024	EPA Comment period ends
DRAFT	Permit issued

4. Permit Modifications/Changes

The table below outlines the proposed changes to the current permit (07334T30):*

Page No.	Section	Description of Changes
Cover Letter	---	Modified to reflect current permit number, issue and effective dates
All	Headers	Amended permit revision number
1-39	Entire permit, where applicable	Modified to reflect current permit number, issue and effective dates
10	2.1 A.4	Removed "15A NCAC 02Q .0504: OPTION FOR OBTAINING CONSTRUCTION AND OPERATION PERMIT". This requirement was satisfied with the application (.23A) received November 15, 2023
32-39	Section 4	Updated the General Conditions to version 7.0 dated 08/21/2023

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

5. Other Requirements

- No application fee was required for this application.
- The appropriate number of application copies was received on 11/15/23.
- The application was signed by Mr. Sujeet Rao, Industrial Excellence Senior Manager, on 11/06/23 as the Responsible Official.
- Catawba County has triggered increment tracking under PSD for PM_{10}. Any increment changes associated with this modification were addressed in the Part I permit (No. 07334T30).
- The associated dates are listed in the Application Chronology section above.

6. Public Notice

Public notice and EPA review is required for the completion of this two-step significant process. 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. 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 15A NCAC 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 15A NCAC 02Q .0521, above.

7. Facility Compliance Status

This facility was last inspected on August 16, 2023 by Joe Foutz of the Raleigh Regional Office. According to Mr. Foutz's report, "Based on my observations during this inspection, this permittee is in violation of Air Permit No. 07334T30, Specific Limitation and Condition Nos. 2.1 A.2.c.ii.; 2.1 A.3.b.ii.; 2.1 A.4.a.; 2.2 A.1.c.ii.; and 2.2 B.1.c.iii. A Notice of Violation will be issued to the permittee." These violations were resolved on November 3, 2023.

8. Conclusions, Comments and Recommendations

The issuance of Air Quality Permit No. 07334T31 to Prysmian Cables and Systems USA, LLC is recommended.

NORTH CAROLINA DIVISION OF AIR QUALITY

Application Review

Issue Date: May 18, 2022

Region: Mooresville Regional Office
County: Catawba
NC Facility ID: 1800419
Inspector's Name: Karyn Kurek
Date of Last Inspection: 04/14/2021
Compliance Code: 3 / Compliance - inspection

Facility Data

Applicant (Facility's Name): Prysmian Cables and Systems USA, LLC

Facility Address:
Prysmian Cables and Systems USA, LLC
2512 Penny Road
Claremont, NC 28610

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 .0515, .0521
NSPS: N/A
NESHAP: N/A
PSD: N/A
PSD Avoidance: 15A NCAC 02Q .0317
NC Toxics: 15A NCAC 02D .1100
112(r): N/A
Other: 15A NCAC 02Q .0317 – Avoidance of 112(g)

Contact Data

Facility Contact	Authorized Contact	Technical Contact
Jeff Roseberry Environmental Safety Manager (828) 459-8668 2512 Penny Road Claremont, NC 28610	Glenn Peterson Fiber Plant Manager (828) 459-8457 2412 Penny Road Claremont, NC 28610	Jeff Roseberry Environmental Safety Manager (828) 459-8668 2512 Penny Road Claremont, NC 28610

Application Data

Application Number: 1800419.21A
Date Received: 09/08/2021
Application Type: Modification
Application Schedule: TV-Sign-501(b)(2) Part I

Existing Permit Data
Existing Permit Number: 07334/T29
Existing Permit Issue Date: 12/16/2019
Existing Permit Expiration Date: 11/30/2024

Total Actual emissions in TONS/YEAR:

CY	SO2	NOX	VOC	CO	PM10	Total HAP	Largest HAP
2020	0.7400	272.04	31.62	3.00	10.88	13.88	11.83 [Chlorine]
2019	0.6700	237.48	35.22	2.94	10.16	13.38	10.74 [Chlorine]
2018	0.6500	242.81	32.43	2.61	8.73	14.45	11.83 [Chlorine]
2017	0.5528	218.18	20.70	1.62	7.38	5.60	3.94 [Chlorine]
2016	0.5200	207.33	25.31	1.49	7.47	2.23	0.7502 [Chlorine]

Review Engineer: David B. Hughes

Review Engineer's Signature: **Date: May 18, 2022**

David B. Hughes

Comments / Recommendations:
Issue 07334/T30
Permit Issue Date: May 18, 2022
Permit Expiration Date: November 30, 2024

I. Purpose of Application No. 1800419.21A

Air Permit Application No. **1800419.21A** was received on **September 8, 2021** for a significant modification pursuant to 15A NCAC 02Q .0501(b)(2) Part 1 to add to Over-cladding units. The units will consist of deposition machines (ID No. ES-12) and sintering operations (ID No. ES-13). Prysmian Cable and System USA, LLC (Prysmian) have also requested modifications to existing Over-cladding units (ID Nos. ES-9 and ES-9a). Detailed discussion of these follows:

Over-cladding Units (ID Nos. ES-12 and ES-13)
The current Over-cladding operations (ID Nos. ES-9 and ES-9a) at the facility utilize dopant and plasma to make silicon soot, a component of the operation. New Over-cladding unit ES-12 will use different materials and hydrogen/oxygen instead of plasma for fuel. Emissions from the deposition operations are expected to be particulate matter (PM), carbon monoxide (CO) and nitrogen oxide (NO_x). The control devices for unit ES-12 are new baghouse (ID No. 1BH) and/or existing baghouse (ID No. 1DS).

The new sintering operations (ID No. ES-13) are expected to have emissions of PM, chlorine (Cl_2), hydrogen chloride (HCl), and hydrogen fluoride (HF). This is from the use of dopant and chlorine gas at elevated temperatures to dry the glass. The control devices for unit ES-13 are new wet scrubber (ID No. 5WS) and/or existing wet scrubber (ID No. 3WS). Prysmian would like to have the ability to vent new operations to either wet scrubber in the event one scrubber is down. As a result, both wet scrubbers will vent to the same stack.

Over-cladding Units (ID Nos. ES-9 and ES-9a)
The facility is proposing to add the ability to have multiple operating scenarios on the current Over-cladding units (ES-9 and ES-9a). The current operation utilizes a dopant material that generates HF and SO_2 emissions and as such the baghouses (ID Nos. 1DS and 2DS) utilize lime injection for control. These operations are being proposed as the alternative operating scenario (AOS). The proposed primary operating scenario (POS) would no longer use dopant in the process and as such, the operations would no longer generate HF and SO_2 emissions. When operating pursuant to the POS, the facility will no longer need the addition of the lime injection into baghouses 1DS and 2DS to control HF. The change is not expected to have any other effect on other emissions, i.e., no increase of PM or NO_x. When operating pursuant to the AOS, controls will be required (as described in the current permit).

The modified permit will now include the following two scenarios:
(1) Primary Operating Scenario (POS) – No use of dopant (i.e., no HF or SO_2 emissions) and no use of lime injection in the baghouses (ID Nos. 1DS and 2DS).
(2) Alternative Operating Scenario (AOS) – Use of dopant (i.e., HF and SO_2 emissions) and lime injection in the baghouses (ID Nos. 1DS and 2DS).

Prysmian has monitoring in Specific Condition 2.1 A.1.b.ii. (A) and CAM 2.3 A.1.a.ii for the current operations, which will become the AOS as described above. Current monitored parameters are lime injection rate and pressure drop across the baghouses. For the new POS, Prysmian requests to modify these conditions and only monitor pressure drop.

Prysmian has also requested the following changes:

Removal of Equipment

The Permittee notes that the scrubber (ID No. 2WS) is no longer in operation and should be removed during this application.

Insignificant Source Updates

The Permittee also requests that Six ribbon lines (ID No. I-RL) be removed from the insignificant list as they have not operated since 2013.

II. Facility Description

Prysmian Cables and Systems USA, LLC (Prysmian), owns and operates an optical fiber manufacturing plant (Fiber Plant) and a fiber optic cable manufacturing plant (Cable Plant) at 2512 B Penny Road in Claremont, Catawba County, North Carolina. The SIC for the facility is 3229 (Glassware Manufacturing). The facility is currently operating in accordance with NC Department of Environmental Quality (DEQ) Title V Permit No. 07334T29 issued on December 19, 2019.

III. History/Background/Application Chronology

April 14, 2021 – Karyn Kurek of the Mooresville Regional Office (MRO) completed the annual compliance inspection of the facility.

September 8, 2021 – DAQ received Permit Application **1800419.21A**, which is the first step of a two-step, 15A NCAC 02Q .0501(b)(2), Significant Modification. The application was deemed complete for processing.

October 28, 2021 – The Permittee submitted a revised toxic air pollutant modeling analysis for wet scrubbers (ID Nos. 3WS and 5WS) into one stack.

January 4, 2022 - Mark Yoder (Air Quality Air Branch (AQAB) reviewed and approved the revised toxic air pollutant modeling analysis for wet scrubbers (ID Nos. 3WS and 5WS).

February 21, 2022 – The Permittee sent in an addendum via email to Permit Application **1800419.21A**. Over-cladding Unit (ID No. ES-12) will be controlled by four smaller baghouses (ID Nos. 1BH, 2BH, 3BH, and 4BH) instead of one large baghouse (ID No. 1BH).

March 3, 2022 - DRAFT permit sent to Permittee, Supervisor, MRO and Samir Parekh for comment. Jeff Roseberry (Prysmian Cable and Systems USA, LLC) and Dana Norvell (Trinity Consultants) provided comments on draft permit and review via e-mail on **March 18, 2022**. Samir Parekh provided comments pertaining to CAM via email on **March 8, 2022**. Mooresville Regional Office had no comments.

May 16, 2022 – Jenny Sheppard (DAQ) updated the Title V Equipment Editor (TVEE).

May 18, 2022 – Air Permit No. **07334T30** issued as a Title V Significant Modification Part I.

IV. Permit Modifications/Changes and ESM Discussion

Page No.	Section	Description of Changes
Cover	---	-Amended permit revision number and issue date.
Permit cover	---	-Amended permit revision number, issue date, application number.
3	List of Acronyms	-Moved List of Acronyms from end of permit.
4 & 5	Section 1 Table	-Permittee has requested to remove control device wet scrubber (ID No. 2WS) since it is no longer in operation. -Added a Primary Operating Scenario (POS) – no dopant material used and an Alternative Operating Scenario (AOS) – dopant material used for Over-cladding Units (ID Nos. ES-9 & ES-9a). -Permittee has requested adding one new Over-cladding Units – Deposition Machines (ID No. ES-12) with control devices, new baghouse filters (ID Nos. 1BH, 2BH, 3BH, & 4BH) or existing baghouse filter (ID No. 1DS) and Over-cladding Units – Sintering Operations (ID No. ES-13) with control devices, existing wet scrubber (ID No. 3WS) or new wet scrubber (ID No. 5WS).
6	2.1 A	-Removed wet scrubber (ID No. 2WS). -Added Over-cladding Units – Deposition Machines (ID No. ES-12) with control devices, new baghouse filters (ID Nos. 1BH, 2BH, 3BH, & 4BH) or existing baghouse filters (ID No. 1DS). -Added Over-cladding Units – Sintering Operations (ID No. ES-13) with control devices, existing wet scrubber (ID No. 3WS) or new wet scrubber (ID No. 5WS).
6	2.1 A.1	-Added Alternative Operating Scenarios language to define Primary Operating Scenario (POS) and Alternative Operating Scenario (AOS) for Over-cladding Units (ID Nos. ES-9 & ES-9a).
7	2.1 A.2.b	-Added Over-cladding Units – Sintering Operations (ID No. ES-13).
7	2.1 A.2.b.ii	-Added testing language from Permit Shell for Over-cladding Units – Sintering Operations (ID No. ES-13).
7	2.1 A.2.b.iii	-Added Over-cladding Units – Sintering Operations (ID No. ES-13) controlled by wet scrubbers (ID Nos. 3WS or 5WS).
7	2.1 A.2.b.v	-Removed wet scrubber (ID No. 2WS). -Added wet scrubber (ID No. 5WS).
7	2.1 A.2.b.vi	-Added confirming or reestablishing operating limits language and submitting a request to revise the value(s) in the permit depending on if operating limits are more stringent or less stringent.
8	2.1 A.2.c	-Added Over-cladding Units – Deposition Machines (ID No. ES-12).
8	2.1 A.2.c.ii	-Added testing language from Permit Shell for POS – Over-cladding Units (ID Nos. ES-9 and ES-9a) and Over-cladding Units – Deposition Machines (ID No. ES-12).

Page No.	Section	Description of Changes
8	2.1 A.2.c.iii	-Added control devices, fabric filter systems (ID Nos. 1BH, 2BH, 3BH, & 4BH).
8	2.1 A.2.c.iii (C)	-Added Pressure drop across fabric filter systems (ID Nos. 1BH, 2BH, 3BH, & 4BH).
8 & 9	2.1 A.2.c.iv	-Added confirming or reestablish operating limits language and submitting a request to revise the value(s) in the permit depending on if operating limits are more stringent or less stringent.
9	2.1 A.2.c.v	-Added control devices, fabric filter systems (ID Nos. 1BH, 2BH, 3BH, & 4BH).
9	2.1 A.3.a	-Added Over-cladding Units - Deposition Machines (ID No. ES-12) and Over-cladding Units – Sintering Operations (ID No. ES-13).
9	2.1 A.3.b.ii	-Added testing language from Permit Shell for Visible Emissions (VE) for POS - Over-cladding Units (ID Nos. ES-9 & ES-9a) and Over-cladding Units (ID Nos. ES-12 & ES-13).
10	2.1 A.3.e	-Added establish “normal” for Visible Emissions (VE) for POS-Over-cladding Units (ID Nos. ES-9 & ES-9a) and Over-cladding Units (ID Nos. ES-12 & ES-13).
10	2.1 A.4	-Added regulation 15A NCAC 02Q .0504: Option For Obtaining Construction And Operation Permit regarding Over-cladding Units (ID Nos. ES-9, ES-9a, ES-12 and ES-13).
11	2.1 B.1.b, c, & d	-Added AOS.
22 & 23	2.2 A.1.a, c, e, f, g, h, & i	-Added POS & AOS.
22	2.2 A.1.d	-Added AOS.
24	2.2 B	-Added ID Nos. (ES-boiler1 & ES-boiler2). -Added ID Nos. (I-ES-SCR-FGH1 & I-ES-SCR-FGH2). -Added ID Nos. (I-ES-SCR-AIH1 & I-ES-SCR-AIH2).
24 - 26	2.2 B.1.a, c, d, e, f, g, h, & i	-Added POS & AOS.
24	2.2 B.1.b & d	-Added AOS
26	2.2 C	-Removed wet scrubber (ID No. 2WS). -Added Over-cladding Units – Sintering Operations (ID No. ES-13) equipped with wet scrubber (ID Nos. 3WS or 5WS).
26 & 27	2.2 C.1	-Removed wet scrubber (ID No. 2WS). -Added Over-cladding Units – Sintering Operations (ID No. ES-13) equipped with wet scrubber (ID Nos. 3WS or 5WS).
27	2.2 C.1.b	-Removed wet scrubber (ID No. 2WS).
27	2.2 C.1.c	-Added AOS.
27	2.2 C.1.d	-Added Over-cladding Units – Sintering Operations (ID No. ES-13) controlled by wet scrubber (ID Nos. 3WS or 5WS).
28	2.3 A	-Added POS & AOS.

Page No.	Section	Description of Changes
28	2.3 A.1.a	-Added Primary Operating Scenario and Alternative Operating Scenario reference.
28	2.3 A.1.b.iii	-Added POS & AOS.
28 & 29	2.3 A.1.c Table	-Added POS & AOS to Indicator #1. -Added AOS to Indicator #2.
29	2.3 B	-Added POS & AOS.
29	2.3 B.1.a	-Added Primary Operating Scenario and Alternative Operating Scenario reference.
29	2.3 B.1.b.iii	-Added POS & AOS.
30	2.3 B.1.c Table	-Added POS & AOS to Indicator #1. -Added AOS to Indicator #2.
31	Section 3 Insignificant Activities	-Moved Insignificant Activities list and removed footnote 3. -Permittee has requested to remove Six ribbon lines (ID No. I-RL since they have not operated since 2013. -Added natural gas-fired flue gas re-heaters (ID Nos. I-ES-SCR-FGH1 and I-ES-SCR-FGH2) and natural gas-fired ammonia injector dilution air heaters (ID Nos. I-ES-SCR-AIH1 and I-ES-SCR-AIH2).
32 - 40	Section 4 General Conditions	-Updated Shell Conditions (v6.0 01/07/2022)

There were significant modifications to the equipment descriptions needed in Title V Equipment Editor (TVEE).

V. Regulatory Review

The facility is currently subject to the following regulations:

15A NCAC 02D .0515, Particulates from Miscellaneous Industrial Process
15A NCAC 02D .0516, Sulfur Dioxide Emissions from Combustion Sources
15A NCAC 02D .0521, Control of Visible Emissions
15A NCAC 02D .0614, Compliance Assurance Monitoring (CAM)
15A NCAC 02D .1100, Control of Toxic Air Pollutants *(State-Enforceable Only)*
15A NCAC 02Q .0317, Avoidance Conditions for 15A NCAC 02D .1111, Maximum Achievable Control Technology
15A NCAC 02Q .0317, Avoidance Conditions for Limitation to Avoid 15A NCAC 02D .0530: Prevention of Significant Deterioration (for NO_x)

A regulatory review for these current permit conditions will only be included for the two new Over-cladding Units (ID Nos. ES-12 and ES-13) and the existing Over-cladding units (ES-9 and ES-9a) as the applicability to the un-modified sources remains unchanged.

A. Over-cladding Units (ID No. ES-9) with associated fabric filter with hydrated lime injection (ID No. 1DS) in series with ammonia injected selective catalytic NOx reduction system (ID No. 1SCR)

Over-cladding Units (ID No. ES-9a) with associated fabric filter with hydrated lime injection (ID No. 2DS) in series with ammonia injected selective catalytic NOx reduction system (ID No. 2SCR)
Over-cladding Units – Deposition Machines (ID No. ES-12) consisting of:
Baghouses (ID No. 1BH, 2BH, 3BH, and 4BH) or Hydrated Lime Injection Dry Scrubber Fabric Filter System (ID No. 1DS)
Over-cladding Units - Sintering Operations (ID No. ES-13) consisting of:
Wet Scrubber (ID Nos. 3WS or 5WS)

1. 15A NCAC 02D .0515 – Particulates from Miscellaneous Industrial Process – This permit condition regulates particulate matter (PM) emissions from point sources that is discharged to the atmosphere.
   a) *The allowable emission rates for particulate matter from any stack, vent, or outlet, resulting from any industrial process for which no other emission control standards are applicable, shall not exceed the level calculated with the equation* $E = 4.10(P)^{0.67}$ *calculated to three significant figures for process rates less than or equal to 30 tons per hour. For process rates greater than 30 tons per hour, the allowable emission rates for particulate matter shall not exceed the level calculated with the equation E = 55.0(P)0.11-40 calculated to three significant figures. For the purpose of these equations "E" equals the maximum allowable emission rate for particulate matter in pounds per hour and "P" equals the process rate in tons per hour.*

Over-cladding Units ES-9 and ES-9a – POS and AOS
This emission control standard is applicable to all PM point sources for which no other particulate emission standard exists. Equations in this section and process weight rates are used to calculate the allowable PM limit for each applicable source. The potential emissions for PM after controls are 0.531 pounds per hour (lb/hr) or 2.326 tons per year (tpy) for Over-cladding Unit **(ID No. ES-9)** and 2.360 lb/hr or 10.34 tpy for **(ID No. ES-9a)**. Prysmian will continue to comply with this limitation by using control equipment **(ID Nos. 1DS and 2DS)**, to reduce PM emissions into the atmosphere.

Monitoring/Recordkeeping
The following operating parameters shall be monitored and recorded on the lime injection/fabric filter system **(ID No. 1DS and 2DS)** at least once per shift depending on the scenario.

POS – Pressure drop across the fabric filter
AOS – Lime injection rate and pressure drop across the fabric filter

Over-cladding Units ES-12 and ES-13
This emission control standard is applicable to all PM point sources for which no other particulate emission standard exists. Equations in this section and process weight rates are used to calculate the allowable PM limit for each applicable source.

ES-12 has a throughput rate of 7.78 tons per hour. The emission limitation using the above equation $E = 4.10(P)^{0.67}$ is 16.2 pounds per hour (lb/hr).

ES-13 has a throughput rate of 0.06 tons per hour. The emission limitation using the above equation E = 4.10(P)0.67 is 0.624 lb/hr.

Prysmian will control PM emissions from these sources as noted here: **(ID Nos. 1BH, 2BH, 3BH, 4BH, or 1DS)** for ES-12, and **(ID Nos 3WS or 5WS)** for ES-13. The potential emissions for PM after controls for ES-12 is 0.078 lb/hr and 0.141 lb/hr for ES-13. Compliance is expected.

2. 15A NCAC 02D .0516– Sulfur Dioxide Emissions From Combustion Sources – This regulation applies to all combustion sources not subject to another sulfur dioxide emission standard and are limited to 2.3 pounds of sulfur dioxide per million Btu of heat input. The above boilers which fire natural gas will therefore easily comply with this standard.

Over-cladding Units ES-9 and ES-9a – POS and AOS

POS – Dopant material will not be used. Therefore, no HF or SO_2 emissions are expected and Over-cladding Units ES-9 and ES-9a would not be subject to 15A NCAC 02D .0516.
AOS – Dopant material will be used. Therefore, HF and SO_2 emissions are expected and Over-cladding Units ES-9 and ES-9a will be subject to 15A NCAC 02D .0516. Emissions of sulfur dioxide from these source groups 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. Compliance is expected.

Over-cladding Units ES-12 and ES-13

Sulfur dioxide is not expected to be generated in Over-cladding Units ES-12 and ES-13 due to the fact that they are non-combustion sources. Therefore, neither source is subject to 15A NCAC 02D .0516.

3. 15A NCAC 02D .0521 – Control of Visible Emissions – VE standards provided in this regulation are applicable to potential VE emissions from any stack, vent, or outlet for which no other emission control standards are applicable. This regulation limits visible emissions to no more than 20 percent opacity when averaged over a 6-minute period, except that 6-minute periods averaging more than 87 percent opacity may occur not more than once in any hour nor more than four times in any 24-hour period.

Over-cladding Units ES-9 and ES-9a – POS and AOS and Over-cladding Units ES-12 and ES-13

All four Over-cladding Units are subject 15A NCAC 02D .0521. Visible emissions shall not be more than 20 percent opacity when averaged over a six-minute period. However, six-miinute averaging periods may not 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. To ensure compliance, once a week the Permittee shall observe the emission points of these sources for any visible emissions above normal. Reporting requirements include documentation of compliance; or instances when visible emissions exceeded normal operating conditions and an explanation of each instance. A statement that the required monitoring was or was not performed each day of operation.

Permit Application Submittal Requirement

1. **15A NCAC 02Q .0504: OPTION FOR OBTAINING CONSTRUCTION AND OPERATION PERMIT**

Permitting [15A NCAC 02Q .0504(d)]

a. Pursuant to 15A NCAC 02Q .0501(b)(2) or (c)(2), for completion of the two-step significant modification process initiated by Application No. **1800419.21A**, the Permittee shall file an amended application following the procedures of Section 15A NCAC 02Q .0500 within one year from the date of beginning operation of any of these sources **(ID Nos. ES-9, ES-9a, ES-12 and ES-13)**.

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

b. The Permittee shall notify the Regional Office, in writing, of the date of beginning operation of any of these sources **(ID Nos. ES-9, ES-9a, ES-12 and ES-13)**, postmarked no later than 30 days after such date.

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

NSPS

The Permittee is not currently subject to any New Source Performance Standards (NSPS). This permit modification does not affect this status.

NESHAPS/MACT

National Emissions Standards for Hazardous Air Pollutants (NESHAP) are emission standards for HAP and are applicable to major and area sources of HAP. A HAP major source is defined as having potential emissions in excess of 10 TPY for any individual HAP and/or potential emissions in excess of 25 TPY for total HAP. An area source is a stationary source that is not a major source. Part 63 NESHAP allowable emission limits are established on the basis of a Maximum Achievable Control Technology (MACT) determination for a particular source category. NESHAP apply to sources in specifically regulated industrial source categories (CAA Section 112(d)) or on a case-by-case basis (Section 112(g)) for facilities not regulated as a specific industrial source type.

Over-cladding Units ES-9, ES-9a and ES-12 and ES-13 are not subject to MACT.

The six Boilers **(ID Nos. ES-boiler1, ES-boiler2, ES-boiler3, ES-boiler4, ES-WB-3 and ES-SB)** are subject to 15A NCAC 02D .1111: Maximum Achievable Technology (MACT) and 40 CFR Part 63, Subpart DDDDD "National Emissions Standards for Hazardous Air Pollutants for Major Sources: Industrial, Commercial, and Institutional Boilers and Process Heaters" which went into effect **May 20, 2019** and the Diesel-fired fire pump **(ID No. I-FP)** from the Insignificant Activities list is subject to 40 CFR 63, Subpart ZZZZ, "National Emission Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines". This permit modification does not affect or modify any of these units. Therefore, continued compliance is expected.

PSD

The facility is currently classified as PSD major and operates under two federally enforceable PSD avoidance conditions for NO_x emissions from the facility. The first is a 250 tpy cap on NO_x emissions from the existing sources prior to the expansion project in 2000. The second is a 250 tpy cap on NO_x emissions from the sources associated with the 2000 expansion project. As such, the facility is an existing major stationary source under the PSD regulation.

As reflected in the table below, the potential emissions of each regulated pollutants from the proposed expansion (Over-cladding Units ES-12 and ES-13) are each less than their respective Significant Emission Rate (SER). The potential emissions are based on maximum equipment capacity and operation at 8760 hours per year. Thus, while the emissions of NO_x are 38.62 tpy, Prysmian is not seeking a PSD avoidance limit.

Pollutant	Project Emissions (TPY)	SER (TPY)	PSD Triggered (Y/N)
TSP/PM	0.96	25	N
PM_{10}	0.96	15	N
$PM_{2.5}$	0.96	10	N
SO_2	-1.18	40	N
CO	31	100	N
VOC	0	40	N
NOx	38.62	40	N
Lead (Pb)	0	0.6	N
CO_{2e}	0	75,000	N

The data in the table above was provided to Prysmian from a study at a sister facility.

112(r) – The facility is not subject to Section 112(r) of the Clean Air Act requirements because it does not store one or more of the regulated substances in quantities above the thresholds in the Rule. This permit modification does not affect this status.

CAM

40 CFR 64 requires that a continuous compliance assurance monitoring plan be developed for all equipment located at a major facility that have pre-controlled emissions above the major source threshold and use a control device to meet an applicable standard. The control devices that are subject to CAM are one fabric filter with hydrated lime injection (ID No. 1DS) for Over-cladding Units (ID No. ES-9) and one fabric filter with hydrated lime injection (ID No. 2DS) for Over-cladding Units (ID No. ES-9a). Prysmian is requesting to eliminate the use of lime in these baghouses for primary operating scenario (POS) and leave the current operation as an alternative operating scenario (AOS).

Over-cladding Units ES-9 and ES-9a – POS and AOS

The following tables outline the monitoring, recordkeeping and reporting approach for each control device.

A. One Fabric Filter with Hydrated Lime Injection (ID No. 1DS)

	Indicator #1 – POS & AOS Pressure drop across the fabric filter.	Indicator #2 - AOS Lime injection rate.
Measurement Approach	Pressure drop across the fabric filter will be monitored with a differential pressure gauge.	Amount of lime will be monitored using batch hopper.
Indicator Range	An excursion is defined as an hourly average differential pressure (DP) less than 0.1 inches of water pressure drop or more than 9 inches of water pressure	An excursion is defined as an injection rate reading less than 33 pounds per hour. An excursion

	drop. An excursion triggers an inspection, corrective action, and a reporting requirement.	triggers an inspection, corrective action, and a reporting requirement.
QIP Threshold	The QIP threshold is six excursions in a six-month reporting period.	The QIP threshold is six excursions in a six-month reporting period.
Performance Criteria: Data Representativeness	Differential pressure taps are located at the fabric filter inlet and outlet.	The injection rate can be is set to feed 30 dry pounds per hour and is verified once per 24-hour period.
Verification of Operational Status	N/A	N/A
QA/QC Practices and Criteria	Daily zero checks to verify gauge operability. The pressure gauge is calibrated monthly using a second gauge and the gauge is replaced when the difference exceeds 5%.	The flow meter is calibrated annually based on manufacturer's instructions.
Monitoring Frequency	Monitored Continuously	Monitored Continuously
Data Collection Procedure	Manually, once per day.	Manually, once per day.
Averaging Period	N/A	N/A

B. One Fabric Filter With Hydrated Lime Injection (ID No. 2DS)

	Indicator #1 – POS & AOS Pressure drop across the fabric filter.	Indicator #2 - AOS Lime injection rate.
Measurement Approach	Pressure drop across the fabric filter will be monitored with a differential pressure gauge.	Amount of lime will be monitored using batch hopper.
Indicator Range	An excursion is defined as an hourly average differential pressure (DP) less than 0.1 inches of water pressure drop or more than 9 inches of water pressure drop. An excursion triggers an inspection, corrective action, and a reporting requirement.	An excursion is defined as an injection rate reading less than 33 pounds per hour. An excursion triggers an inspection, corrective action, and a reporting requirement.
QIP Threshold	The QIP threshold is six excursions in a six-month reporting period.	The QIP threshold is six excursions in a six-month reporting period.
Performance Criteria: Data Representativeness	Differential pressure taps are located at the fabric filter inlet and outlet.	The injection rate can be is set to feed 30 dry pounds per hour and is verified once per 24-hour period.
Verification of Operational Status	N/A	N/A
QA/QC Practices and Criteria	Daily zero checks to verify gauge operability. The pressure gauge is calibrated monthly using a second gauge	The flow meter is calibrated annually based on manufacturer's instructions.

	and the gauge is replaced when the difference exceeds 5%.	
Monitoring Frequency	Monitored Continuously	Monitored Continuously
Data Collection Procedure	Manually, once per day.	Manually, once per day.
Averaging Period	N/A	N/A

Recordkeeping and Reporting [15A NCAC 02Q .0508(f), 40 CFR 64.9]

a. The Permittee shall comply with the recordkeeping requirements of 40 CFR 64.9(b) and submit a summary report of the monitoring and recordkeeping activities postmarked on or before January 30 of each calendar year for the preceding six-month period between July and December and July 30 of each calendar year for the preceding six-month period between January and June. All instances of deviations from the requirements of this permit must be clearly identified. The reports shall comply with the reporting requirements of 40 CFR 64.9(a) and include, at a minimum the following information, as applicable:

i. Summary information on the number, duration and cause (including unknown cause, if applicable) of excursions or exceedances, as applicable, and the corrective actions taken;

ii. Summary information on the number, duration and cause (including unknown cause, if applicable) for monitor downtime incidents (other than downtime associated with zero and span or other daily calibration checks, if applicable); and

iii. A description of the actions taken to implement a QIP during the reporting period as specified in 40 CFR 64.8. Upon completion of a QIP, the owner or operator shall include in the next summary report documentation that the implementation of the plan has been completed and reduced the likelihood of similar levels of excursions or exceedances occurring.

Over-cladding Units ES-13

The new source ES-13 will have uncontrolled emissions for chlorine greater than the major source threshold of 10 TPY for HAPs and thus are subject to CAM. Prysmian will submit CAM as part of the TV submittal (i.e. Part 2).

VII. Facility Wide Air Toxics

Control of Toxic Air Pollutant Emissions (15A NCAC 02D .1100)

A toxic air pollutant (TAP) permit application shall include an evaluation of the TAP emissions from facility sources, excluding exempt sources listed under 15A NCAC 02Q .0702. This regulation outlines the procedures that must be followed if modeling is required under 15A NCAC 02Q .0700. The facility previously triggered and modeled the following four (4) TAPs: hydrogen chloride (HCl), chlorine (Cl_2), hydrogen fluoride (HF) and ammonia (NH_3).

Toxic Air Pollutant Procedures (15A NCAC 02Q .0700)

There is an increase in chlorine (Cl_2), hydrogen chloride (HCl), and hydrogen fluoride (HF) emissions with this expansion. There will be no change in ammonia emissions so ammonia was not included in this air toxics evaluation. The new units (ES-13) will be vented to a new wet scrubber (5WS). The site is constructing a stack for the new scrubber and as part of the project, the facility will also be

ducting emissions from the 3WS wet scrubber to the new stack. The current modeling analysis was performed using stack-specific emissions and parameters in order to comply with NC Air Toxics.

The dispersion modeling analysis was done by Mark Yoder, Meteorologist, Air Quality Analysis Branch (AQAB). Application No. 1800419.21A triggered modeling requirements to evaluate toxic pollutants whose emissions rates are expected to exceed the levels outlined in 15A NCAC 02Q .0700. The modeling adequately demonstrates compliance, on a facility-wide basis, for all toxics modeled.

Three air toxics, Cl2, HCl, and HF, were evaluated facility-wide in the modeling. AERMOD (21112) was used to model impacts in both simple and elevated terrain. Five years (2014-2018) of meteorological surface data from Lumberton Regional Airport and upper air data from the Piedmont Triad International Airport in Greensboro was used for modeling. Direction-specific building dimensions, determined using EPA's BPIP-Prime program (04274), were used as input to the model for building wake effect determination. Receptors were placed at 25-meter intervals along the property boundary. Beyond the property boundary, receptors were placed 100m apart in a Cartesian receptor grid extending approximately 2,000 m from the center of the plant.

In order to maximize operational flexibility, each source was modeled at a normalized (1 gram per second) emission rate to identify the worst-case stack. Model impacts were then scaled up to 99% of the AAL to determine facility-wide emission limits for each pollutant and averaging period.

Maximum impacts and Allowable Emission Rates for each toxic pollutant are presented in the following table:

Table 1 – Modeled Impacts and Allowable Emissions Rates
Prysmian Cables and Systems – Claremont, NC

TAP	Averaging Period	AAL (µg/m3)	% of AAL	Allowable Emission Rate
Chlorine	1-hour	900	99%	43.97 lb/hr
	24-hour	37.5	99%	212.71 lb/day
Hydrogen Chloride	1-hour	700	99%	34.2 lb/hr
Hydrogen Fluoride	1-hour	250	99%	2.85 lb/hr
	24-hour	30	99%	37.95 lb/day

The modeling results demonstrate compliance assuming the source parameter and pollutant emission rates used in the analysis are correct. For a complete report of the dispersion modeling analysis, see Mark Yoder's January 4, 2022 memorandum.

VIII. Facility Emissions Review

See Table in the header for a summary of the actual emissions as reported to DAQ from the years 2016 to 2020.

Catawba County has triggered increment tracking under PSD for PM_{10}. This modification will result in an increase in 0.22 pounds per hour of PM_{10}.

IX. Stipulation Review

The facility was last inspected by Karyn Kurek on **April 14, 2021**. Based on her observations the facility appeared to be in compliance with their Title V permit requirements.

X. Affected State(s) Review

No public comment period is necessary for Part 1 of the 15A NCAC 02Q .0501(b)(2) process. The second step application due within 12 months of start-up of any piece of the new/modified equipment will require public notice and review prior to issuance.

XI. Conclusions, Comments, and Recommendations

PE Seal

Pursuant to 15A NCAC 2Q .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 Rule .0103 of this Section that involve:

(1) design;
(2) determination of applicability and appropriateness; or
(3) determination and interpretation of performance; of air pollution capture and control systems.

A professional engineer's seal (PE Seal) **WAS** required for this modification and was submitted with the application.

Zoning

A zoning consistency determination was submitted for this modification.

Recommendations

MRO recommends issuance of the permit and was sent a DRAFT permit prior to issuance (See Section III of this document for a discussion).

The Raleigh Central Office (RCO) concurs with MRO's recommendation to issue the Air Permit No. 07334T30.