

**NORTH CAROLINA DIVISION OF  
AIR QUALITY  
Application Review**

**Region:** Fayetteville Regional Office  
**County:** Scotland  
**NC Facility ID:** 8300109  
**Inspector's Name:** Tajjah Hamil  
**Date of Last Inspection:** 05/31/2024  
**Compliance Code:** 3 / Compliance - inspection

**Issue Date:** Date needed

<p><b>Facility Data</b></p> <p><b>Applicant (Facility's Name):</b> Edwards Wood Products, Inc. – Laurinburg Saw Mill #2</p> <p><b>Facility Address:</b>          Edwards Wood Products, Inc. – Laurinburg Saw Mill #2          13421 North Rocky Ford Rd.          Laurinburg, NC 28535</p> <p><b>SIC:</b> 2421 / Sawmills &amp; Planing Mills General  <b>NAICS:</b> 321113 / Sawmills</p> <p><b>Facility Classification: Before:</b> Synthetic Minor   <b>After:</b> Title V  <b>Fee Classification: Before:</b> Synthetic Minor   <b>After:</b> Title V</p>	<p><b>Permit Applicability (this application only)</b></p> <p><b>SIP:</b> 15A NCAC 02D .0503, .0512, .0516, .0521, .0524, .1111, and .1806  <b>NSPS:</b> 40 CFR 60, Subpart III  <b>NESHAP:</b> 40 CFR 63, Subpart ZZZZ  <b>PSD:</b> N/A  <b>PSD Avoidance:</b> 15A NCAC 02Q .0317  <b>NC Toxics:</b> 15A NCAC 02D .1100, 15A NCAC 02Q .0711  <b>112(r):</b> N/A  <b>Other:</b> 15A NCAC 02Q .0504 (2-Step Modification)</p>
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<p><b>Contact Data</b></p> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <th style="width: 33%;">Facility Contact</th> <th style="width: 33%;">Authorized Contact</th> <th style="width: 33%;">Technical Contact</th> </tr> <tr> <td>Bernardo Penoro Director of EH&amp;S (704) 624-3611 2215 Old Lawyers Rd. Marshville, NC 28103</td> <td>Bernardo Penoro Director of EH&amp;S (704) 624-3611 2215 Old Lawyers Rd. Marshville, NC 28103</td> <td>Bernardo Penoro Director of EH&amp;S (704) 624-3611 2215 Old Lawyers Rd. Marshville, NC 28103</td> </tr> </table>	Facility Contact	Authorized Contact	Technical Contact	Bernardo Penoro Director of EH&S (704) 624-3611 2215 Old Lawyers Rd. Marshville, NC 28103	Bernardo Penoro Director of EH&S (704) 624-3611 2215 Old Lawyers Rd. Marshville, NC 28103	Bernardo Penoro Director of EH&S (704) 624-3611 2215 Old Lawyers Rd. Marshville, NC 28103	<p><b>Application Data</b></p> <p><b>Application Number:</b> 8300109.24B  <b>Date Received:</b> 10/25/2024  <b>Application Type:</b> Modification  <b>Application Schedule:</b> State</p> <p style="text-align: center;"><b>Existing Permit Data</b></p> <p><b>Existing Permit Number:</b> 10569/R03  <b>Existing Permit Issue Date:</b> 10/18/2024  <b>Existing Permit Expiration Date:</b> 02/28/2026</p>
Facility Contact	Authorized Contact	Technical Contact					
Bernardo Penoro Director of EH&S (704) 624-3611 2215 Old Lawyers Rd. Marshville, NC 28103	Bernardo Penoro Director of EH&S (704) 624-3611 2215 Old Lawyers Rd. Marshville, NC 28103	Bernardo Penoro Director of EH&S (704) 624-3611 2215 Old Lawyers Rd. Marshville, NC 28103					

**Total Actual emissions in TONS/YEAR:**

CY	SO2	NOX	VOC	CO	PM10	Total HAP	Largest HAP
2023	--	--	--	--	--	--	--
2022	--	--	--	--	--	--	--
2021	--	--	--	--	--	--	--
2020	--	--	--	--	--	--	--
2019	--	--	--	--	--	--	--

No emissions inventory on record. The emissions inventory is due 11/30/2025.

<p><b>Review Engineer:</b> Luke Mayer</p> <p><b>Review Engineer's Signature:</b> _____   <b>Date:</b> _____</p>	<p><b>Comments / Recommendations:</b></p> <p><b>Issue:</b> 10569/R04  <b>Permit Issue Date:</b> Date needed  <b>Permit Expiration Date:</b> Date needed</p>
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## 1. Purpose of Application

Edwards Wood Products, LLC currently holds state Permit No. 10569R03 with an expiration date of February 28, 2026 for a greenwood sawing facility in Laurinburg, Scotland County, North Carolina. This permit application is for a modification to the production process, which will allow the facility to operate at maximum kiln drying production and maximum board feet usage. This modification will result in facility emissions above the major source threshold, and the facility's classification shall be changed from synthetic minor to Title V. This application addresses the first step of the two-step process available pursuant to 15A NCAC 02Q .0504 for facilities that become subject to Title V through construction or modification. The facility shall have 12 months from the issuance of this permit for submittal of the second-step application, pursuant to procedures in 15A NCAC 02Q .0500 for facilities subject to Title V. This modification application was received on October 25, 2024.

## 2. Facility Description

The following description is largely taken from the most recent inspection report<sup>1</sup>, prepared by Tajjah Hamil of the Fayetteville Regional Office, and dated May 31, 2024. Some slight changes have been made to reflect modifications that have occurred since the inspection.

The Edwards Wood Products, Inc. – Laurinburg Saw Mill #2 facility is in Laurinburg, Scotland County. The facility consists of a greenwood sawing operation. The sawing operation consists of four (4) gang saws, three (3) trim saws, and a notching saw operation. The facility also consists of a kiln drying operation. The facility has five kilns; one lumber kiln (**ID No. ES-3**), which dries the lumber coming from the sawing operations, and four pallet kilns (**ID No. ES-4a, ES-4b, ES-5a, and ES-5b**), which dry the final pallets once assembled. The raw material for these operations is mostly pine (i.e., undried green softwood).

Initially logs enter the log and wood chip processing area of the plant where the logs go through debarking, cutting, sharp chain system, and wood chips processing. Wood chips are conveyed to the rail loadout area (**ID No. IES-7**). Rough cut wood pieces are transferred to the woodworking operations area (**ID No. ES-1**), including gang saws, trim saws, notching saw, planer, and an edger. Resulting wood sawdust waste from the sawing operations is conveyed to the truck loadout (**ID No. IES-2**) controlled by a cyclone (**ID No. CD-2**). Finished wood from the sawing operation is sorted and then transferred to the pallet marking area or to the lumber kiln (**ID No. ES-3**) for drying. Completed pallets are transferred to the pallet kilns (**ID Nos. ES-4a, ES-4b, ES-5a, and ES-5b**) for drying.

The conveyor and loadout system were added in 2022 to convey green wood chips (by-products from the log processing part of the sawing operations) to railcars for shipping offsite. The top of the railcar is covered during the filling operation.

The following emission sources are active at the facility:

- Woodworking Operations controlled by 12.7 ft diameter cyclone (CD-1) (**ID No. ES-1**)
- Natural gas direct-fired lumber drying kiln (Kiln #1), rated at 152,000 board feet capacity, heated by two direct-fired 16.5 mmBtu/hr natural gas burners (**ID No. ES-3**)
- Steam-heated lumber drying kiln (Kiln #2), rated at 24,300 board feet capacity (**ID No. ES-4a**)
- Steam-heated lumber drying kiln (Kiln #3), rated at 24,300 board feet capacity (**ID No. ES-4b**)
- Steam-heated lumber drying kiln (Kiln #4), rated at 24,300 board feet capacity (**ID No. ES-5a**)
- Steam-heated lumber drying kiln (Kiln #5), rated at 24,300 board feet capacity (**ID No. ES-5b**)

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<sup>1</sup> <https://edocs.deq.nc.gov/AirQuality/DocView.aspx?id=493556&dbid=0&repo=AirQuality>

- Natural gas-fired Boiler (12.6 mmBtu/hr maximum heat input capacity) supplying steam for Kiln #2 through Kiln #5 operations **(ID No. ES-6)**

The following insignificant activities are present at the facility:

- Truck Loadout System controlled by 3.2 ft diameter cyclone (CD-2) **(ID No. IES-2)**
- One wood chip railcar loadout operation **(ID No. IES-7)**
- 305 HP (227 kW) Diesel-Fired Emergency Fire Pump **(ID No. IES-8)**

The following control devices are in use at the facility:

- Cyclone, 12.7 feet diameter **(ID No. CD-1)**
- Cyclone 3.2 feet diameter **(ID No. CD-2)**

The facility shall become a Title V facility because potential emissions of volatile organic compounds (VOCs) exceed 100 tons per year.

### 3. Proposed Project Summary

#### Project Description

Edwards Wood Products, LLC has submitted an application<sup>2</sup> for a modification to their existing air permit (Air Permit No. 10569R03) that will upgrade the facility's classification from Synthetic Minor to Title V and remove capacity restrictions on the facility's kilns **(ID Nos. ES-3, ES-4a, ES-4b, ES-5a, and ES-5b)** to accommodate increased demand.

The existing permit includes a Synthetic Minor limitation mandating that facility-wide emissions of VOCs remain below 100 tons per year. To maintain this level of emissions, the following operating restrictions apply:

- The amount of wood dried in Kiln #1 **(ID No. ES-3)** shall not exceed 33.8 million board-feet per consecutive 12-month period.
- The amount of wood dried in Kiln #2 through Kiln #5 **(ID Nos. ES-4a, ES-4b, ES-5a, and ES-5b)** shall not exceed a total of 12.5 million board-feet per consecutive 12-month period.

As part of this permit modification, this limitation shall be removed. It should be noted that operating restrictions related to avoidance of NC Air Toxics rules shall remain in effect. These operating restrictions are as follows:

- The Permittee shall not exceed 145,000 board-feet per drying batch load in natural gas direct-fired lumber drying kiln **(ID No. ES-3)** or total of 97,200 board-feet per drying batch load in steam-heated lumber drying kilns **(ID Nos. ES-4a, ES-4b, ES-5a, and ES-5b)**.

This translates to a maximum of 52,925,000 board-feet per year for Kiln #1 and a combined maximum of 50,086,588.2 board-feet from Kilns #2 through #5.

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<sup>2</sup> <https://edocs.deq.nc.gov/AirQuality/DocView.aspx?id=517342&dbid=0&repo=AirQuality>

For comparison, Kiln #1 has a maximum capacity of 152,000 board-feet per drying load and takes roughly 24 hours to complete a drying load, equating to a maximum drying capacity of 55,480,000 board-feet per 12-month period. Kilns #2 through #5 have maximum capacities of 24,300 board-feet per drying load and take roughly 17 hours to complete a drying load, meaning they can complete 515.29 loads in a 12-month period (8,760 hours). This equates to a total maximum drying capacity of 50,086,588.2 board-feet per 12-month period. In effect, the air toxics limitation will allow Kilns #2 through #5 to operate at maximum capacity, but limit Kiln #1 to about 4.6% below maximum over a 12-month period.

Emissions Estimates

This modification will result in an increase in emissions of PM and VOCs as shown in the table below:

Regulated Air Pollutant	Before Modification	After Modification	Change in Potential Emissions, tons per year (tpy)
	Potential to Emit with Synthetic Minor Limitation, tons per year (tpy)	Potential to Emit without Synthetic Minor Limitation, tons per year (tpy)	
Particulate matter, total	6609.23	6613.50	+4.27
Particulate matter, <10 microns (PM <sub>10</sub> )	79.10	79.10	0
Particulate matter, <2.5 microns (PM <sub>2.5</sub> )	29.44	29.44	0
Sulfur dioxide (SO <sub>2</sub> )	0.21	0.21	0
Nitrogen oxides (NO <sub>x</sub> )	21.94	21.94	0
Carbon monoxide (CO)	16.95	16.95	0
Volatile Organic Compounds (VOCs)	< 100	218.56	+118.56
Single largest HAP	3.97 (Methanol)	9.24 (Methanol)	+5.27
Total HAPs	7.80	16.38	+8.58

The facility-wide potential emissions will increase due to this permit modification because production limitations imposed on the facility for its current classification of Synthetic Minor will be removed. However, the potential emissions are still limited below maximum due to existing production limits that allow the facility to comply with NC air toxics limits. As stated previously, these conditions are not being removed, unlike the Synthetic Minor limitations.

Using data provided by the applicant, the facility’s emissions were estimated for each source using the DAQ’s Emissions Estimation Spreadsheets for woodworking operation, natural gas combustion, and lumber kilns. If emissions estimation spreadsheets were not available for any source, potential-to-emit data provided by the applicant were used instead.

**4. History/Background/Application Chronology**

History/Background

March 5, 2018                      Construction and operation permit issued. Air Permit No. 10569R00 was issued on March 5, 2018, with an expiration date of February 28, 2026. (See Gregory Reeves’ review for permit No. 10569R00, dated March 5, 2018)

- May 31, 2023 Air Permit No. 10569R01 was issued for a significant modification. This issuance modified the air permit to include sources **ES-3**, **ES-4a**, and **ES-4b**, and remove the woodworking process from permitting. To accommodate the addition of these sources, permit restrictions have been modified to allow the facility to remain classified as synthetic minor. *(See Tajah Hamil’s review for permit No. 10569R01, dated May 31, 2023)*
- June 29, 2023 Air Permit No. 10569R02 was issued for an administrative amendment. This issuance removed an erroneous permit restriction on drying time for the kilns and removed an associated recordkeeping requirement to record length of drying time for each batch from the condition for 15A NCAC 02D .1100 “Control of Toxic Air Pollutants.” *(See Tajah Hamil’s review for permit No. 10569R02, dated June 29, 2023)*
- October 18, 2024 Air Permit No. 10569R03 was issued for a significant modification. This issuance modified the air permit to include sources **ES-5a** and **ES-5b** and change insignificant activity **IES-6** into a significant emissions source due to being modeled as part of the submitted TAP compliance demonstration. To accommodate the addition of these sources, the permit restrictions that allow the facility to remain classified as synthetic minor have been modified accordingly. *(See Tajah Hamil’s review for permit No. 10569R03, dated October 18, 2024)*

Application Chronology

- October 25, 2024 Received permit application 8300109.24B for significant modification.
- October 28, 2024 Sent acknowledgment letter indicating that the application for permit modification was complete.
- November 8, 2024 Application transferred to review engineer Luke Mayer of the Raleigh Central Office.
- November 20, 2024 Sent a request to facility contact James Sizemore and contractor Daryl Grassick for PTE data and regulatory discussions for all “exempt” sources and an inquiry about the facility’s most recent air toxics modeling demonstration.
- December 4, 2024 Received PTE data and regulatory discussions for **IES-6/ES-6**, **IES-7**, and **IES-8** from contractor Daryl Grassick.
- December 6, 2024 Received information about the previous air toxics modeling demonstration from contractor Daryl Grassick. A new air toxics demonstration is unnecessary because the previous demonstration provides hourly air toxics emission rates, and hourly rates are not changing as part of this modification.
- December 26, 2024 Received PTE data and regulatory discussions for Kilns 1-5 (**ES-3**, **ES-4a**, **ES-4b**, **ES-5a**, and **ES-5b**) from contractor Daryl Grassick.
- December 31, 2024 Received PTE data and regulatory discussions for **IES-5/ES-X** from contractor Daryl Grassick.

January 7, 2025	Received PTE data and regulatory discussions for <b>IES-1/ES-1</b> and <b>IES-2</b> from contractor Daryl Grassick.
January 14, 2025	Draft permit and review forwarded to supervisor Rahul Thaker for comments.
January 21, 2025	Comments received from supervisor Rahul Thaker. Corrections were needed to the permit to bring it in line with traditional two-step Synthetic Minor to Title V conversion formatting, and improvements were needed to several sections of the Statement of Basis.
January 23, 2025	Sent a request to technical contact Daryl Grassick for average weight of the wood dried at the facility in board-feet and for updated paperwork to correct the facility responsible official as listed in the application.
January 27, 2025	Received an updated Form A from technical contact Daryl Grassick including the necessary information to update the listed responsible official for this facility to Mr. Terry Williamson.
January 27, 2025	Updated draft permit and review forwarded to supervisor Rahul Thaker for comments.
January 29, 2025	Comments received from supervisor Rahul Thaker. Editorial changes to the permit and statement of basis were needed.
February 14, 2025	Received permission from facility contractor Daryl Grassick via phone call to use average values of 537 – 626 kg per cubic meter for softwood weight estimation.
February 18, 2025	Draft permit and review forwarded to applicant, SSCB, and regional office for comments.
February 25, 2025	Engineer Taijah Hamil from the Fayetteville Regional Office indicated via email call that they had comments on the draft permit or permit review. FRO requested clarifications and corrections to both draft documents and requested the addition of a notification requirement for the construction of Kilns #4 and #5 ( <b>ID Nos. ES-5a</b> and <b>ES-5b</b> ). See Sections 5 and 11 for more information.
March 12, 2025	Facility contractor Daryl Grassick indicated on behalf of the facility via phone call that they had no comments on the draft permit or permit review.
date	Draft permit and permit review forwarded to public notice via DAQ website.
date	Public comment period ends. <a href="#">Comments were/were not received.</a>
date	EPA comment period ends. <a href="#">Comments were/were not received.</a>
date	Permit issued.

## 5. Permit Modifications/Changes and TVEE Discussion

The following table describes the modifications to the current permit as part of the modification process. This summary is not meant to be an exact accounting of each change but a summary of those changes.

Page(s)	Section	Description of Changes
NA	NA	NA

This modification is being processed without any physical change to the facility’s equipment. Because of the facility’s change from Synthetic Minor to Title V, the classification of certain sources will be changing as part of this permit modification. Previously, certain activities were classified as “exempt” according to 15A NCAC 02Q .0102, which is allowed for small and synthetic minor facilities. With the change to Title V, this rule no longer applies; according to 15A NCAC 02Q .0102(b)(1), exemptions are not available for facilities whose potential emissions require a permit pursuant to 15A NCAC 02Q .0500 (Title V Procedures). Instead, activities can be designated as “insignificant” granted they meet the definitions in 15A NCAC 02Q .0503(7) (“insignificant activities because of category”) or .0503(8) (“insignificant activities because of size or production rate”). Sources currently classified as “exempt” as part of the Synthetic Minor/State permit will be reclassified as “insignificant” unless otherwise noted below.

The facility’s woodworking operations, previously permitted as “**IES-1**,” will be reclassified from insignificant/exempt to a fully permitted source and will be renamed “**ES-1**” because pre-control potential emissions of PM<sub>10</sub> and PM<sub>2.5</sub> are greater than 5 tons per year each. This source is not eligible for classification as “insignificant” according to 15A NCAC 02Q .0503(7) or (8). Previously, the woodworking operations were classified as “exempt” under 15A NCAC 02Q .0102(g)(12) (woodworking operations processing only greenwood).

The facility’s two direct-fired 16.5 million Btu/hr natural gas burners, listed in Form D4 of the application as “**IES-5**,” will be rolled into existing permitted source “**ES-3**” (Kiln #1) because they share an emission point and because the burners are associated with the operations of Kiln #1. Furthermore, potential emissions of NO<sub>x</sub> and CO from **IES-5** would be greater than 5 tons per year and would not be eligible to be classified as “insignificant” according to 15A NCAC 02Q .0503(7) or (8).

The facility’s natural gas-fired boiler associated with operations of Kilns #2-#5 (**ID No. ES-6**) has in the past been classified as “exempt” because it fires exclusively natural gas. In the case of Small and Synthetic Minor facilities, exemptions can be granted for fuel combustion equipment firing exclusively natural gas under 15A NCAC 02Q .0102(h)(1)(B). It should be noted that, currently, the source is listed as a fully permitted source in the most recent permit issuance because the emissions source was modeled for NC air toxics under 15A NCAC 02D .1100. Going forward, the natural gas exemption will no longer apply, and this source will no longer be eligible to be classified as “insignificant,” because potential emissions of NO<sub>x</sub> from this source are greater than 5 tons per year according to 15A NCAC 02D .0503(8).

On February 25, 2025, comments were received from Fayetteville Regional Office review engineers. FRO requested the addition of a requirement for the facility to notify the DAQ Regional Supervisor within 15 days of construction of Kilns #4 and #5 (**ID Nos. ES-5a and ES-5b**). As these sources have not yet been constructed, Raleigh Central Office agreed with this request and added a condition under 15A NCAC 02Q .0308(a)(1) to the permit including this requirement, listed in the permit under Section 2.1 A.7. FRO also requested a change to the operating restrictions for NC air toxics rules. The facility’s previous air toxics restrictions require the facility to fire no more than 97,200 board-feet per drying batch load *in total* in the steam-heated lumber drying kilns (Kilns #2 through #5, **ID Nos. ES-4a, ES-4b, ES-5a, and ES-5b**). FRO requested that this be changed to 24,300 board-feet per drying batch load *per kiln* because each of the four kilns can be loaded at different times and this way is easier to track and ensure compliance with the rule. It should be noted that this does not change the facility’s effective limit as 24,300 board-feet per batch load per kiln across four kilns is equivalent to a total of 97,200 board-feet per

batch load for all four kilns. Raleigh Central Office agreed with this request and modified the condition in Section 2.1 A.1.b of the permit. No changes were made to the monitoring, recordkeeping, or reporting requirements or the operating limits for Kiln #1 (**ID No. ES-3**).

## 6. Regulatory Review

Edwards Wood Products, LLC – Laurinburg Saw Mill #2 is subject to the following regulations. The facility’s equipment and operations have not changed since the initial permit issuance in 2018. The permit was updated to reflect the most current stipulations for all applicable regulations, where necessary.

15A NCAC 02D .0503: Particulates from Indirect Heat Exchangers – The facility’s natural gas-fired boiler (**ID No. ES-6**) is subject to this rule. The boiler has a maximum design heat input capacity of 12.6 mmBtu/hr, so using the equation given in the rule,

$$E = 1.090 \times Q^{-0.2594}$$

Where:

E = allowable emission limit for particulate matter [lb/million Btu]  
Q = maximum heat input [million Btu/hr]

the boiler is subject to a limit of 0.563 lb/million Btu.

The combustion sources associated with Kiln #1 (**ID No. ES-3**, two direct-fired 16.5 mmBtu natural gas burners) are not subject to this rule because they are not indirect heat exchangers; these units directly apply heat to the drying process.

No monitoring, recordkeeping, or reporting is required for this source because it fires natural gas. According to the DAQ’s Natural Gas Combustion Emissions Estimation Spreadsheet, Rev. N (dated 01/05/2017), the estimated potential emission rate of particulate matter from this boiler is 0.01 lb/hr, which is well below the specific limit given above. Continued compliance is expected.

15A NCAC 02D .0512: Particulates from Wood Products Finishing Plants – The facility’s woodworking operations (**ID No. ES-1**) are subject to this rule because they directly associated with the processing of wood products. The facility shall not allow particulate matter caused by the working, sanding, or finishing of wood to be discharged from any stack, vent, or building into the atmosphere without providing, as a minimum for its collection, duct work and collectors that are properly designed and adequate to collect particulate to the maximum extent practicable. This emissions source is controlled by a cyclone, so monthly and annual inspections of the cyclone shall be required. The results of these inspections shall be recorded in a logbook, and a summary report of these activities shall be submitted to DAQ on a semi-annual basis.

15A NCAC 02D .0515: Particulates from Miscellaneous Industrial Processes – The facility’s five lumber drying kilns (**ID No. ES-3, ES-4a, ES-4b, ES-5a, and ES-5b**) are subject to this rule because they are not subject to any other specific regulations. These kilns are not subject to 15A NCAC 02D .0512 because, while they are involved in the processing of wood, no sanding, working, or finishing of wood takes place in them, so this rule applies instead to ensure that particulate emissions from these sources are controlled. This rule applies to all of the above operations/equipment/units based on process rate in tons per hour. Emission limits are to be calculated for each applicable unit of equipment using the following formula:



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

$$E = 55.0 \times P^{0.11} - 40 \quad (\text{for process rates greater than 30 tons per hour})$$

Where:

$$E = \text{allowable emission rate} \quad [\text{lb/hr}]$$

$$P = \text{process rate} \quad [\text{ton/hr}]$$

Kiln #1 has a maximum drying capacity of 152,000 board-feet of wood per load, and an average load for this unit takes 24 hours to complete. Kilns #2 through #5 have a maximum drying capacity of 24,300 board-feet, and an average load for these units takes 17 hours to complete. These kilns primarily dry southern pine softwood, which has an average weight of 537 – 626 kg per cubic meter.<sup>3</sup> Technical contact Daryl Grassick indicated via phone call on February 14, 2025 that these values were acceptable to the facility. With these values and the above formulas, allowable emissions limits for these sources can be calculated as follows:

$$537 \frac{\text{kg}}{\text{m}^3} \div 423.776 \frac{\text{bd ft}}{\text{m}^3} \times 2.205 \frac{\text{lb}}{\text{kg}} = 2.79 \frac{\text{lb}}{\text{bd ft}}$$

For Kiln #1:

$$2.79 \frac{\text{lb}}{\text{bd ft}} \times 152,000 \frac{\text{bd ft}}{\text{load}} \div 24 \frac{\text{hr}}{\text{load}} = 17,696.15 \frac{\text{lb}}{\text{hr}} = 8.85 \frac{\text{ton}}{\text{hour}}$$

$$4.10 (8.85)^{0.67} = 17.67 \frac{\text{lb,PM}}{\text{hr}}$$

For Kilns #2 through #5:

$$2.79 \frac{\text{lb}}{\text{bd ft}} \times 24,300 \frac{\text{bd ft}}{\text{load}} \div 17 \frac{\text{hr}}{\text{load}} = 3,988.06 \frac{\text{lb}}{\text{hr}} = 1.99 \frac{\text{ton}}{\text{hour}}$$

$$4.10 (1.99)^{0.67} = 6.50 \frac{\text{lb,PM}}{\text{hr}} \text{ (each)}$$

Calculations made using DAQ's Wood Kiln Emissions Calculator estimation spreadsheet (Rev. C, dated July 2007) indicate that, at maximum capacity, Kiln #1 (direct-fired) has pre-control potential particulate matter (PM) emissions of 11.10 tons per year, equivalent to 2.53 pounds per hour, which is well below the emission limit for this source. Calculations from the same spreadsheet indicate that, at maximum capacity, Kilns #2 through #5 (steam-heated) have pre-control potential PM emissions of 0.14 tons per year each, equivalent to 0.032 pounds per hour each, which is also well below the emission limit for these sources. Compliance is expected.

The facility owner or operator shall maintain production records for these sources including the process rates of each source in tons per hour. No reporting is necessary for these sources.

15A NCAC 02D .0516: Sulfur Dioxide Emissions from Combustion Sources – The facility's natural gas-fired boiler (**ID No. ES-6**) and two natural gas burners associated with Kiln #1 drying operations (**ID No. ES-3**) are subject to this rule. The boiler and the burners are subject to a flat emission limit of 2.3 lbSO<sub>2</sub> per million Btu heat input.

<sup>3</sup> [Southern Yellow Pine - American Softwood.](#)

No monitoring, recordkeeping, or reporting is required for the natural gas-fired burners and boiler because they fire natural gas. According to the most recent inspection report<sup>1</sup>, prepared by engineer Tajjah Hamil of the Fayetteville Regional Office and dated June 3, 2024, the AP-42 SO<sub>2</sub> emission factor from natural gas combustion is 0.0006 lb per million Btu, which is far below the threshold above. Continued compliance is expected.

15A NCAC 02D .0521: Control of Visible Emissions – The facility and all its sources are subject to this rule. As all sources appear to have been manufactured and constructed after July 1, 1971, visible emissions shall not be more than 20% opacity when averaged over a 6-minute period. Six-minute periods may exceed 20% opacity if: no six-minute period exceeds 87% opacity; no more than one six-minute period exceeds 20% opacity in any hour; and no more than four six-minute periods exceed 20% opacity in any 24-hour period. If a source is subject to a more stringent opacity limit under 40 CFR 60 (NSPS) or 40 CFR 63 (NESHAPs), it shall comply with that limit instead.

For the combustion sources (**ID Nos. ES-3 and ES-6**), no monitoring, recordkeeping, or reporting is required because the sources fire natural gas. For the woodworking operations (**ID No. ES-1**), weekly observations of the emission point of the source are required. For the kilns (**ID Nos. ES-3, ES-4a, ES-4b, ES-5a, and ES-5b**), no monitoring, recordkeeping, or reporting is required because lumber drying is not expected to produce any direct visible emissions. Based on comments from engineer Heather Carter of the Fayetteville Regional Office, additional monitoring, recordkeeping, or reporting was deemed unnecessary because lumber drying kilns are not expected to produce visible emissions, and because the kilns are either indirect-fired, or are fired with natural gas, which is also not expected to produce significant visible emissions. The facility owner or operator is required to maintain the results of these monitoring activities in a logbook and submit a report detailing these activities to DAQ on a semi-annual basis. According to the most recent inspection report<sup>1</sup>, prepared by engineer Tajjah Hamil of the Fayetteville Regional Office and dated June 3, 2024, no visible emissions were detected during the inspection, where it was noted that the majority of the sources were in operation.

15A NCAC 02D .0524: New Source Performance Standards – The facility’s diesel-fired emergency fire pump (**ID No. IES-8**) is subject to 40 CFR 60, Subpart IIII: Standards of Performance for Stationary Compression Ignition Internal Combustion Engines because it was manufactured after July 1, 2006. See the NSPS review segment in Section 7 below for more information. The facility owner or operator shall comply with any and all applicable NSPS requirements to demonstrate compliance with this subpart. This source is classified as “insignificant” so no permit conditions related to NSPS will be added to the permit, although the facility owner or operator will still be responsible for complying with applicable requirements.

15A NCAC 02D .0958: Work Practices for Sources of Volatile Organic Compounds - On November 1, 2016, amendments to 15A NCAC 02D .0902 were finalized to narrow applicability of work practice standards in 15A NCAC 02D .0958 from statewide to the maintenance area for the 1997 8-hour ozone standard. This change was made primarily because the abundance of biogenic VOC emissions in North Carolina results in ozone formation being limited by the amount of available nitrogen oxides (NO<sub>x</sub>) emissions. Provisions of the Clean Air Act require VOC requirements previously implemented in an ozone nonattainment area prior to redesignation remain in place. Areas that shall maintain the work practice standards under 15A NCAC 02D .0958 in North Carolina are as follows: Cabarrus County; Gaston County; Lincoln County; Mecklenburg County; Rowan County; Union County; and Davidson/Coddle Creek Township in Iredell County. Facilities outside the maintenance area counties for the 1997 8-hour ozone standard will no longer be required to comply with the work practice standards in 15A NCAC 02D .0958. Scotland County was never in nonattainment for ozone and 15A NCAC 02D .0958 is no longer applicable to facilities, including

Edwards Wood Products, Inc. – Laurinburg Saw Mill #2, within the county. Therefore, the permit condition for 15A NCAC 02D .0958 will not be added under this permit modification.

15A NCAC 02D .1111: Maximum Achievable Control Technology – The facility’s diesel-fired emergency fire pump (**ID No. IES-8**) is subject to 40 CFR 63, Subpart ZZZZ: National Emissions Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines. See the NESHAPs/MACT review segment in Section 7 below for more information. The facility owner or operator shall comply with any and all applicable National Emission Standards for Hazardous Air Pollutants (NESHAPs) to demonstrate compliance with this rule. This source is classified as “insignificant” so no permit conditions related to NESHAPs/MACT will be added to the permit, although the facility owner or operator will still be responsible for complying with applicable requirements.

15A NCAC 02D .1806: Control and Prohibition of Odorous Emissions – The owner or operator of this facility shall not operate it or any source without implementing management practices or installing and operating odor control equipment sufficient to prevent odorous emissions from causing or contributing to objectionable odors beyond the facility’s boundary.

## 7. NSPS, NESHAPs/MACT, PSD, 112(r), CAM

### NSPS

The facility is currently subject to one New Source Performance Standard. This permit modification does not change the facility’s NSPS status. No physical changes to the facility will occur as part of this modification, and the operational changes that will occur do not affect any NSPS-subject sources at the facility. The change from Synthetic Minor to Title V does mean the facility’s diesel-fired emergency fire pump (**ID No. IES-8**) will be reclassified from “exempt” to “insignificant,” but this will not cause any changes with respect to related conditions.

40 CFR 60, Subpart Dc: Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units – The facility’s 12.6 million Btu/hr natural gas-fired boiler (**ID No. ES-6**) is **not** subject to this requirement because it was constructed prior to June 9, 1989.

40 CFR 60, Subpart IIII: Standards of Performance for Stationary Compression Ignition Internal Combustion Engines – The facility’s diesel-fired emergency fire pump (**ID No. IES-8**) is subject to this subpart because it was manufactured in 2018, after the rule threshold of July 1, 2006. This engine, as a stationary fire pump engine, is subject to the following emission limitations:

	NMHC + NO <sub>x</sub>	CO	PM
<b>Emission Standard in g/KW-hr (g/HP-hr)</b>	4.0 (3.0)	3.5 (2.6)	0.20 (0.15)

The facility owner or operator must operate the source less than 100 hours per calendar year and must install a non-resettable hour meter prior to startup of the engine. The facility owner or operator must submit a summary report on a semi-annual basis containing the following information: company name and address where the engine is located; date of the report and beginning and end dates of the reporting period; engine site rating and model year; latitude and longitude of the engine in decimal degrees reported to five decimal places; and hours spent in operation for emergency purposes (detailed in § 60.4211(f)(3)(i), including the date, start time, and end time for engine operation, if applicable. Reports shall be submitted via the EPA’s Compliance and Emissions Data Reporting Interface (CEDRI) accessible through the Central Data Exchange (CDX).

Because this source is classified as “insignificant,” no conditions related to NSPS IIII will be added to the permit language, but the facility owner or operator will still be responsible for complying with this rule.

#### NESHAP/MACT

The facility is classified as an area source of hazardous air pollutants (HAPs) and is currently subject to one Maximum Achievable Control Technology (MACT) standard. This permit modification does not change the facility’s NESHAP/MACT status, and the operational changes that will occur as part of this modification will not require the facility to be reclassified from an area source to a major source. The change from Synthetic Minor to Title V does mean the facility’s diesel-fired emergency fire pump (**ID No. IES-8**) will be reclassified from “exempt” to “insignificant,” but this will not cause any changes with respect to related conditions.

40 CFR 63, Subpart DDDD: National Emission Standards for Hazardous Air Pollutants: Plywood and Composite Wood Products – The facility and its woodworking operations (**ID No. ES-1**) are **not** subject to this subpart because the facility is classified as an area source of HAPs, and this subpart only applies to facilities that are classified as major sources.

40 CFR 63, Subpart ZZZZ: National Emissions Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines – The facility’s diesel-fired emergency fire pump (**ID No. IES-8**) is subject to this subpart. For the purposes of this subpart, this engine is considered to be a new stationary reciprocating internal combustion engine (RICE) because it was constructed after June 12, 2006, and exists at an area source of HAP emissions. The facility owner/operator complies with this subpart for this engine by complying with 40 CFR 60, Subpart IIII. See the NSPS segment above for more information.

Because this source is classified as “insignificant,” no conditions related to NSPS IIII will be added to the permit language, but the facility owner or operator will still be responsible for complying with this rule.

40 CFR 63, Subpart JJJJJ: National Emission Standards for Hazardous Air Pollutants for Industrial, Commercial, and Institutional Boilers Area Sources – The facility’s 12.6 million Btu/hr natural gas-fired boiler (**ID No. ES-6**) is **not** subject to this subpart because it fires natural gas and is therefore classified as a gas-fired burner as described in §63.11237.

#### PSD

Because of the production rate increase associated with this modification, and because reported potential emissions were close to the 250 tpy applicability threshold, total facility emissions from all sources were evaluated in detail to ensure that PSD would not be triggered. It was confirmed that none of the facility’s emissions of any regulated NSR pollutants exceed 250 tons per year, so PSD does not apply to this facility. A more detailed review of the facility’s emissions can be found in Section 9 below.

Scotland County has triggered increment tracking under PSD for PM<sub>10</sub> and SO<sub>2</sub>. This permit modification does not consume or expand any increments for PM<sub>10</sub> or SO<sub>2</sub>.

## 112(r)

The facility is not subject to Section 112(r) of the Clean Air Act requirements because it does not store any of the regulated substances in quantities above the 112(r) thresholds. No change with respect to 112(r) is anticipated under this permit modification.

## CAM

The CAM rule (40 CFR 64; 15A NCAC 02D .0614) applies to each pollutant specific emissions unit (PSEU) at a facility required to obtain a Title V permit and that meets all three following criteria:

- the unit is subject to any (non-exempt: e.g., pre November 15, 1990, Section 111 or Section 112 standard) emission limitation or standard for the applicable regulated pollutant.
- the unit uses any control device to achieve compliance with any such emission limitation or standard.
- The unit has potential pre-control device emissions of the applicable regulated air pollutant that are equal to or greater than 100 percent of the amount, in tons per year, required for a source to be classified as a major source (i.e., 100 tons per year for criteria pollutants or 10/25 tons per year for HAPs).

CAM does not apply to any of this facility's sources. The only major source at this facility that operates with a control device is the facility's woodworking operations (**ID No. ES-2**), and the pre-control emissions from this source are less than 100 tons per year for each criteria pollutant. In any event, CAM applies to Title V facilities only and will not be relevant for this facility until it completes the second step of the Title V conversion process under 15A NCAC 02Q .0504 and becomes subject to Title V.

## **8. Facility Wide Air Toxics**

In 2024, the facility applied<sup>4</sup> for a modification (Application No. 8300109.24A) to include two new kilns. The permit<sup>5</sup> including this modification (10569R03) was issued on October 18, 2024. An air toxics dispersion modeling demonstration was required as part of this application for emissions of acrolein and formaldehyde as the facility-wide emission rate was expected to exceed the toxic air pollutant permitting emission rates (TPERs) found in 15A NCAC 02Q .0711. This air toxics demonstration<sup>6</sup> was submitted by facility contractor Daryl Grassick and was received by the Fayetteville Regional Office on August 23, 2024. On October 09, 2024, Justin McKee of AQAB completed a review<sup>7</sup> of this demonstration, and found that the facility would comply with the allowable annual limits (AALs) for acrolein and formaldehyde under the following parameters:

For Kiln #1 (ES-3):

- A limited kiln capacity of 145,000 bd-ft (per load),
- A drying cycle of 24 hours,
- With physical changes to the emission release points, including adding a 4-foot enclosure over the existing vents exhausting emission from all 16 roof-top vents through two square stacks (36 feet high) on the north end of the Kiln #1 building (an east and west stack).

For Kilns #2, #3, #4, and #5 (ES-4a, ES-4b, ES-5a, and ES-5b):

- A combined kiln capacity of 97,200 bd-ft (per load)
- A drying cycle of 17 hours

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<sup>4</sup> <https://edocs.deq.nc.gov/AirQuality/DocView.aspx?id=501583&dbid=0&repo=AirQuality>

<sup>5</sup> <https://edocs.deq.nc.gov/AirQuality/DocView.aspx?id=516476&dbid=0&repo=AirQuality>

<sup>6</sup> <https://edocs.deq.nc.gov/AirQuality/DocView.aspx?id=511115&dbid=0&repo=AirQuality>

<sup>7</sup> <https://edocs.deq.nc.gov/AirQuality/DocView.aspx?id=526422&dbid=0&repo=AirQuality>

The results of this modeling are as follows:

Pollutant	Averaging Period	Maximum Modeled Concentration ( $\mu\text{g}/\text{m}^3$ )	AAL ( $\mu\text{g}/\text{m}^3$ )	% AAL
Acrolein	1-hour	8.2	80	10.3
Formaldehyde	1-hour	149.7	150	99.8

To ensure the facility would not inadvertently violate any air toxics conditions through increased emissions resulting from the production increase associated with this modification, the facility’s potential emissions of air toxics were evaluated in detail. Factoring in the proposed production increase, only toxic air pollutants (TAPs) were found to have the potential for emission at rates exceeding their respective TPER limits: acrolein and formaldehyde. These two TAPs are the subject of the existing demonstration above, which shows that the facility will comply with the AALs for these two substances under the conditions listed above. Given that the facility’s production and emission rates on an hourly basis will not be changing from said conditions as part of this modification, it has been determined that a new toxics dispersion modeling demonstration will not be necessary. The existing demonstration is acceptable for demonstrating continued compliance with NC Air Toxics program requirements.

## 9. Facility Emissions Review

Actual emissions for criteria pollutants and HAPs for the previous five years are not yet available. This facility was first permitted on March 5, 2018, as a Synthetic Minor facility. The first emissions inventory for this facility is due November 30, 2025 under the existing permit conditions. Once the facility is permitted in accordance with Title V, the facility’s emissions inventory submission schedule will be changing to annual.

## 10. Compliance Status

DAQ has reviewed the compliance status of Edwards Wood Products, Inc. – Laurinburg Saw Mill #2. During the most recent inspection, conducted on May 30, 2024 by Tajjah Hamil of the Fayetteville Regional Office, the facility appeared to be in compliance with all applicable requirements. The facility has had four air quality violations within the last five years: one NOV/NRE<sup>8</sup> for construction of sources without a permit on January 11, 2023; one NOV/NRE<sup>9</sup> for failure to obtain a permit prior to installation and operation of sources and exceeding the formaldehyde AAL under 02Q .0700 rules on April 4, 2023, one NOD<sup>10</sup> for failure to submit notification of construction on September 5, 2023; and one NOD<sup>11</sup> for failing to submit required reports in a timely manner on March 3, 2025. The first three violations were all resolved on June 29, 2023. For the fourth violation, the required reports were submitted on February 17, 2025. The facility’s Periodic Compliance Certification was received on January 30, 2024, and indicated compliance with all applicable requirements from June 2023 through December 2023.

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

In accordance with NC DAQ’s Enhanced Public Outreach program, DAQ will seek public comment on an environmental justice report, along with the draft permit and statement of basis. The public notice period for this process will run for 30 days.

<sup>8</sup> <https://edocs.deq.nc.gov/AirQuality/DocView.aspx?id=390738&dbid=0&repo=AirQuality>

<sup>9</sup> <https://edocs.deq.nc.gov/AirQuality/DocView.aspx?id=410970&dbid=0&repo=AirQuality>

<sup>10</sup> <https://edocs.deq.nc.gov/AirQuality/DocView.aspx?id=440614&dbid=0&repo=AirQuality>

<sup>11</sup> <https://edocs.deq.nc.gov/AirQuality/DocView.aspx?id=536763&dbid=0&repo=AirQuality>

On February 25, 2025, comments were received from Fayetteville Regional Office review engineers. FRO requested corrections, clarifications, and the addition of a new requirement to the draft permit and draft statement of basis. These include additional justifications in the statement of basis, the removal of unnecessary monitoring, recordkeeping, and reporting requirements for the lumber kilns for 15A NCAC 02D .0521, a minor change to the facility's NC air toxics-related operating conditions, and a requirement to notify the DAQ Regional Supervisor within 15 days of the construction of Kilns #4 and #5 (**ID Nos. ES-5a and ES-5b**). Raleigh Central Office agreed with these comments, revised the draft permit and statement of basis accordingly, and sent the updated draft documents out to the regional office and applicant once more for review on February 28, 2025.

## **12. Other Regulatory Considerations**

- A P.E. seal is NOT required for this modification.
- A zoning consistency determination is NOT required for this modification.
- An application fee of \$3,508 was received on October 29, 2024 for this permit modification.

## **13. Recommendations**

The permit modification application for Edwards Wood Products, Inc. – Laurinburg Saw Mill #2 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. 10569R04.