

NORTH CAROLINA DIVISION OF
AIR QUALITY

Application Review

Issue Date:

Region: Raleigh Regional Office
County: Chatham
NC Facility ID: 1900015
Inspector's Name: Abdul Kadir
Date of Last Inspection: 03/28/2023
Compliance Code: 3 / Compliance - inspection

<p style="text-align: center;">Facility Data</p> <p>Applicant (Facility's Name): Arauco North America, Inc.</p> <p>Facility Address: Arauco North America, Inc. 985 Corinth Road Moncure, NC 27559</p> <p>SIC: 2493 / Reconstituted Wood Products NAICS: 321219 / Reconstituted Wood Product Manufacturing</p> <p>Facility Classification: Before: Title V After: Title V Fee Classification: Before: Title V After: Title V</p>	<p style="text-align: center;">Permit Applicability (this application only)</p> <p>SIP: 02D .0503, 0512, .0515, .0516, .0521, .0524, .0530, .0540, .0614, .1111, .1806; 02Q .0317 NSPS: Dc, IIII NESHAP: ZZZZ, DDDD, DDDDD PSD: Yes PSD Avoidance: YES NC Toxics: NO 112(r): NO Other: CAM</p>
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Contact Data			Application Data
<p style="text-align: center;">Facility Contact</p> <p>Larry Durgin Environmental Manager (919) 930-5079 985 Corinth Road Moncure, NC 27559</p>	<p style="text-align: center;">Authorized Contact</p> <p>Jeff McMillian Plant Manager (919) 545-5865 985 Corinth Road Moncure, NC 27559</p>	<p style="text-align: center;">Technical Contact</p> <p>Larry Durgin Environmental Manager (919) 930-5079 985 Corinth Road Moncure, NC 27559</p>	<p>Application Number: 1900015.21A Date Received: 12/22/2020 Application Type: Renewal Application Schedule: TV-Renewal Existing Permit Data Existing Permit Number: 03449/T58 Existing Permit Issue Date: 09/22/2023 Existing Permit Expiration Date: 02/28/2027</p>

Total Actual emissions in TONS/YEAR:

CY	SO2	NOX	VOC	CO	PM10	Total HAP	Largest HAP
2022	6.13	204.90	312.19	162.89	92.65	235.65	218.09 [Methanol]
2021	7.02	223.02	349.45	180.69	87.78	264.16	245.30 [Methanol]
2020	7.58	111.15	600.67	194.33	91.15	241.16	227.18 [Methanol]
2019	13.61	280.04	1260.94	579.34	156.92	327.33	285.05 [Methanol]
2018	13.75	245.13	985.75	493.30	130.56	269.46	233.06 [Methanol]

<p>Review Engineer: Joseph Voelker</p> <p>Review Engineer's Signature: _____ Date: _____</p>	<p style="text-align: center;">Comments / Recommendations:</p> <p>Issue 03449/T59 Permit Issue Date: Permit Expiration Date:</p>
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I. Purpose of Application

Arauco North America, Inc. (Arauco) owns and operates an existing medium density fiberboard (MDF) manufacturing mill in Moncure, North Carolina. The facility currently operates under Title V Operating Permit No. 03449T58 issued by the North Carolina Department of Environmental Quality (DEQ), Division of Air Quality (DAQ), on September 22, 2023.

Arauco submitted this application to request renewal of the air permit.

Arauco submitted the renewal application on December 22, 2020, thereby meeting the requirement at General Condition K of the effective permit at the time (03449T53) to submit the renewal application at least six months before the date of permit expiration (June 30, 2021). Hence, Arauco is covered under the application shield pursuant to 15A NCAC 02Q .0512(b).

II. Chronology

Date	Description
December 22, 2020	A renewal application was received and assigned application no. 1900015.21A.
January 6, 2021	An acknowledgment letter was sent stating: “This application submittal did contain all the required elements as indicated and has been accepted for processing. Your application will be considered complete as of December 22, 2020, unless informed otherwise by this office within 60 days.” Application was considered complete as of December 22, 2020.
January 23, 2024	Pre-draft permit sent to Arauco, Supervisor, and Raleigh Regional Office (RRO) for review via email. Phone discussion between this permit engineer and the RRO occurred.
January 25, 2024	Draft permit was discussed with supervisor. All comments were incorporated into the draft permit and review. Arauco responded to January 23 email “The permit looks good after reviewing.” Follow up phone call with Arauco occurred to discuss supervisor comments. Arauco had no comments on the draft permit.
January 26, 2024	RRO sent an email stating “RRO has no comment on the permit or review.”
January 29, 2024	Draft permit to be published on NCDEQ website for concurrent public and EPA review pursuant to TV permitting requirements.
February 28, 2024	30-day public comment period scheduled ending.
March 14, 2024	EPA’s concurrent 45-day review period scheduled ending.

III. Permitting History Since Last Renewal

The following outline provides a permitting history of the subject facility since the last renewal. Descriptive language is quoted from the air permit review documents.

Permit Revision No.	Issue Date	Application No.	Application Type	Application Schedule
T58	09/22/2023	1900015.22B	Modification	TV-Significant
Purpose of Application:				
Arauco is submitting this significant modification application to permit the uncontrolled operation of the MDF Board Cooler (ES-06-B) and to remove the biofilter as a listed control technology for this source in Table 2.2.B.2				

of Condition 2.2 B.2.a of Permit No. 03449T57 but retain the numerical emission limit established as Best Available Control Technology (BACT).

As the proposed changes are a significant modification that contravene or conflict with a condition in the existing permit, this application is being processed as a one-step significant modification pursuant to 15A NCAC 02Q .0501(c)(1) and 02Q .0516.

Permit Revision No.	Issue Date	Application No.	Application Type	Application Schedule
T57	06/15/2022	1900015.22A	Modification	TV-Minor
Purpose of Application:				
Arauco has submitted a request to revise its air permit pursuant to the minor modification procedures at 15A NCAC 02Q .0515 "Minor Modification Procedures." The request involves revising the NOx emission factors used for PSD Avoidance purposes. These emission factors are deemed to be less stringent than those in the existing permit. See Section III below for further discussion.				

Permit Revision No.	Issue Date	Application No.	Application Type	Application Schedule
T56	03/28/2022	21C	Admin. Amendment	TV-Administrative
Purpose of Application:				
Arauco has submitted a request to revise its air permit pursuant to the administrative procedures at 15A NCAC 02Q .0514. See Section III below for requested permit revisions.				

Permit Revision No.	Issue Date	Application No.	Application Type	Application Schedule
T55	06/09/2021	21B	Modification	TV-Minor
Purpose of Application:				
With this application, Arauco is requesting a minor modification to the facility's Title V permit in accordance with 15A NCAC 02Q .0515 for the construction and operation of two new moulding lines and the modification of the control system for the already installed moulding line (ES-M1A).				
Note that Arauco submitted a minor modification application for one moulding line in May 2020. At that time, it was not anticipated that two additional lines would be installed at the facility. In order to fully capture the emissions increases from the project, Arauco has presented all three current and proposed lines in the emissions calculations for this application. This approach confirms that no circumvention of any regulation was achieved by utilizing two permit applications to install all three moulding lines.				

Permit Revision No.	Issue Date	Application No.	Application Type	Application Schedule
T54	05/19/2021	19D	Modification	PSD
Purpose of Application:				
The purpose of this application is to:				
<ol style="list-style-type: none"> increase the allowable nitrogen oxides (NOx) emissions from the MDF plant's energy system (Energy System). Arauco shut down the PB plant at the facility in April 2020. Through this application, Arauco will incorporate this permanent shutdown of the PB plant emission units and utilize a contemporaneous netting analysis to increase the allowable NOx emissions from the Energy System. The analysis will show that the increase in NOx emissions will not be considered a PSD modification and therefore will not be subject to PSD review. reevaluate the VOC BACT determination at the MDF plant originally incorporated into permit no. T47 issued August 30, 2017. 				

This application was processed consistent with 15A NCAC 02D .0530 "Prevention of Signification Deterioration." For Title V purposes, the changes were considered to be significant modifications. Because the changes to the permit were determined to contravene or conflict with conditions in the existing permit, the application was also processed in a one-step fashion consistent with 15A NCAC 02Q .0501(c)(1) "Purpose of Section and Requirement for a Permit" and 02Q .0516 "Significant Permit Modification."

Permit Revision No.	Issue Date	Application No.	Application Type	Application Schedule
T53	06/16/2020	20A	Modification	TV-Minor
Purpose of Application:				
The purpose of this application is to construct and operate a new moulding production line at the MDF plant.				

Permit Revision No.	Issue Date	Application No.	Application Type	Application Schedule
T52	01/02/2020	18B and 19C	Modification	TV-Significant
Purpose of Application:				
The purpose of this combined application is:				
<u>Application No. 18B</u>				
<ul style="list-style-type: none"> to incorporate monitoring parameters established during MACT DDDD(4D) required performance testing to address questions concerning emission factors incorporated into the PSD Avoidance condition found at Section 2.2 B.1. 				
<u>Application No. 19A</u>				
<ul style="list-style-type: none"> to remove wastewater evaporator (EVAP-1) from the permit; to revise MACT 5D boiler tune requirements for sources ES-18, -19 and -20; to add Routine control device maintenance exemption as allowed under MACT 4D; to satisfy the permit application submittal requirement of Section 2.2 B.3 in the current permit 				

Permit Revision No.	Issue Date	Application No.	Application Type	Application Schedule
T51	03/06/2019	19A	Name Change	TV-Administrative
Purpose of Application:				
The Arauco North America, Inc. facility is located in Moncure, Chatham County, North Carolina. Application No. 1900015.19A, received by the Division on February 25, 2019, is an application for a name change as listed below:				
<p><i>New Facility Name:</i> Arauco North America, Inc. <i>Former Facility Name:</i> Arauco Panels USA LLC</p>				

Permit Revision No.	Issue Date	Application No.	Application Type	Application Schedule
T50	11/21/2018	18A	Modification	PSD
Purpose of Application:				
Arauco has submitted a permit application to increase actual throughput in the MDF operation by making upgrades to plant equipment. No changes that are to be made will affect throughput of the PB operations.				

Permit Revision No.	Issue Date	Application No.	Application Type	Application Schedule
T49	02/28/2018	17B	Modification	TV-Significant
Purpose of Application:				
The purpose of this application is as follows (excerpt from permit application):				
<p>On November 15, 2015, Arauco entered into a Special Order by Consent (SOC) to remove the existing PGT Control devices (CD02-2, CD14-2, CD16-2, and CD-PB-PGT). Alternative control systems have been evaluated and Arauco is submitting this Air Permit Modification Application to convert the particleboard green rotary dryers to dry rotary dryers, as defined in Part 63.2292, and to demonstrate PCWP MACT compliance for the particleboard press through successful demonstration of the production based compliance option as defined in Table A to Subpart DDDD of Part 63.</p>				
<p>The SOC referenced above addresses the steps by which compliance with 40 CFR 63 Subpart DDDD will be achieved for the MDF plant and the PB plant. This includes the submittal of permit applications. This application will address compliance of the PB plant. Compliance by the MDF plant was addressed in application no. 16A which resulted in the issuance of permit no. T45.</p>				
<p>In addition, permit no. T48, issued December 21, 2017, addressed a significant modification to the MDF plant backup burners (application no. 1900015.17D, see chronology). It was processed via the two-step process pursuant to 15A NCAC 02Q .0504. That modification will also be subjected to public and EPA review along with the modifications addressed specifically in this application. The review for permit no. T48 will be included as an attachment to this review.</p>				

Permit Revision No.	Issue Date	Application No.	Application Type	Application Schedule
T48	12/21/2017	17D	Modification	TV-Sig-501(b)(2) Part I
Purpose of Application:				
The purpose of this application is as follows (excerpt from permit application):				
<p>Arauco Panels is requesting to replace the 78.5 mmBtu/hr backup natural gas burner ES-02-C with two 35 mm Btu/hr heaters in its stead to increase reliability of the plant during periods where the primary energy system, a 205 mmBtu/hr wood fired heater, is down for maintenance. During periods where the wood-fired energy system is not operating, the MDF plant does not operate at full capacity and struggles with quality and reliability. Also, the burner configuration, originally designed by the site's previous owner Uniboard, has a potential to increase risk for fire because the configuration is not up to modern standards for wood products safety.</p>				
<p>The new burners will be subject the Plywood and Composite Wood Products NESHAP (PCWP MACT DDDD) as they will directly fire the existing blow line MDF dryer. The burners ES -02-C and ES-02-A were deemed to not be subject to NSPS subpart Dc by the DAQ in 2011.</p>				

Permit Revision No.	Issue Date	Application No.	Application Type	Application Schedule
T47	08/30/2017	17A	Modification	PSD
Purpose of Application:				
The purpose of this application is as follows (excerpt from original review):				

This Prevention of Significant Deterioration (PSD) application does not include the PB plant at the facility and addresses only the MDF plant.

On September 9, 2015, Arauco entered into Special Order by Consent (SOC) 2015-002 with the North Carolina Division of Air Quality (NCDAQ) to request removal of the PGT units and to address the resulting noncompliance with 40 CFR Part 63 Subpart DDDD, "National Emission Standards for Hazardous Air Pollutants (NESHAP) for Plywood and Composite Wood Products." The SOC became final on November 2, 2015. The SOC allowed Arauco to decommission the PGT systems due to underperformance and safety issues noted above. Arauco has previously accepted PSD avoidance limits for the MDF plant, and the SOC also addressed the possibility decommissioning the PGT systems in the MDF plant could result in an exceedance of the avoidance limit for VOCs. In the event the PSD avoidance limit for VOCs was exceeded, Paragraph II.A.ii of the SOC required the Permittee to submit a PSD application if deemed necessary by the NCDAQ. Per a letter dated October 17, 2016, NCDAQ deemed it necessary that Arauco submit a PSD permit application because VOC emissions from the MDF plant had exceeded the PSD avoidance limit from June through September 2016. (Note exceedances of the PSD avoidance limit have been ongoing ever since June 2016.) The PSD application was due within 120 days of receipt of the letter (i.e., by February 14, 2017).

Permit Revision No.	Issue Date	Application No.	Application Type	Application Schedule
T45	07/01/2016	08D, 12C, 16A	Renewal/ Modification	TV-Significant

Purpose of Application:

The purpose of this application is to address:

Task	Description
1	The renewal of permit no. T34, which expired on July 31, 2009 (application no. 9800015.08D)
2	The Part II application for the Part I applications 1900015.07A, 08C and 09B that addressed the rebuilding and modifications to the MDF plant (application no. 9800015.12B) (this application was consolidated into 9800015.12C)
3	Compliance of the particle board plant with MACT DDDD (application no. 9800015.12C)
4	Compliance of the MDF plant with MACT DDDD (application no. 9800015.12A) (this application was consolidated into 9800015.12C)
5	Modifications to the MDF plant performed primarily for compliance with MACT DDDD (application no. 9800015.16A).

IV. Facility Operations

To facilitate the regulatory review below, a description of the primary operations at the facility is presented below. The following narrative is reproduced from the permit application.

The Moncure mill is a manufacturer of MDF, an engineered wood panel product, for use in the furniture, cabinetry, and architectural trim manufacturing industries. MDF is produced by mechanically refining wood material, such as wood chips, planer shavings, sawdust, urban wood, particleboard reclaim, sander dust, or plywood trim into a fibrous material. Typical products are 5 ft. x 16 ft. and 5 ft. x 18 ft. panels. The manufacturing steps include receipt and storage of wood residuals, softening of the wood residuals in a digester, grinding the residuals into fibers, drying the fibers, combining, and mixing the fibers with resin, wax, and urea solution, preparing the fiber mats, and pressing the mats to form a panel. The panels are then sanded to the specified thickness, trimmed to appropriate lengths and widths, and shipped for sale.

Receiving and Preparation

Hardwood or softwood chips are supplied by an offsite vendor. Chips are transported from chip storage to the MDF production line in enclosed conveyors to prevent fugitive emissions. To begin the process, the chips are screened on an enclosed roller bed screen. Oversized chips are burned in the energy system. After screening, the chips enter a surge bin where steam is introduced to soften the chips. Next, the chips enter a refiner for grinding into fiber. During upset conditions, a refiner abort cyclone may be used (CD-01), which purges un-resinated wood from the process instead of sending it to the dryers. During normal operation, any emissions from the refiner continue to the dryers and are controlled along with the dryer exhaust in the biofilter.

Resin, Drying, and Forming

The wood fibers continue to a blow line where resin and the wood fibers are mixed together before being sent to a two-stage dryer system. A portion of the first stage dryer cyclone exhaust gas is recycled to the energy system, with the majority of the exhaust gas being sent to two parallel wet scrubbing systems that consist of venturi scrubbers (CD-02 and CD-14) for PM control followed by a biofilter (CD18). The wood/resin mix then goes to the second stage dryer for additional moisture removal. The second stage dryer cyclone exhaust is recycled to the first stage dryer. The dryers obtain direct heat from the energy system described below. There are also backup natural gas burners to provide heat to the dryers (ES-02-C-1 and -2 and ES- 02-D) during times when the energy system is not available. Emissions from these burners vent to the dryer scrubbing systems (CD-02/CD-14).

Following the 2-stage drying process, the fiber goes through a fiber sifting system with fabric filter control (ES-03) and is formed into mats that are continuously loaded into a press. The dosing bin and forming line have a pneumatic clean-up system with a fabric filter to control PM emissions (CD-04). Reject material is sent to the sawdust and reject fiber silos (ES-13 and ES-15) for recycle within the process or use in the energy system. The material reject system only operates as necessary (it is not desirable to generate reject material) and is controlled by a fabric filter (CD-05).

MDF Press and Cooling

Heat and pressure are applied at the press to make MDF boards of varying thickness (note that all emissions calculations and throughputs are on a 3/4-inch basis). The press exhaust is vented to a wet scrubbing system (venturi scrubber) to control PM and then it is vented to the energy system for use as combustion air. The board separating saw cuts the pressed MDF boards to size and is controlled by a fabric filter (CD-07). The MDF boards then go to a board cooler. The press room exhaust goes to the energy system and a portion is used as dryer inlet air. The heat energy system therefore provides some emissions control for the press room. The board cooler is routed directly to atmosphere.

Finishing

Once cooled, the MDF is cut and finished. The finishing process includes a series of sawing and sanding systems each controlled with fabric filters (CD07, CD08, and CD10). The finishing system emission points are EP-08 and EP-10 (sander systems) and EP-07 (saw system – board separating saw and panel saw). There are several material

storage silos controlled by bin vent filters: CD-09 and CD-15 (recycled fiber silos), CD-12 and CD-17 (sander dust silos), and CD-13 (dry sawdust silo).

Moulding Process

Arauco also operates moulding lines at the Moncure facility. A moulding line (of which there are three permitted) shapes, coats, and dries medium density fiberboard (MDF) manufactured at the site. A moulding line consists of one moulding area including a rip saw, molder, and sanders and one coating area, including a spray coater and a two-burner oven. A dust collection system consisting of two bag filters is used for abatement of the particulate emissions from the moulding areas. Within a coating area, the spray coater is enclosed (no particulate emissions release) and the two-burner oven is vented to the atmosphere. Shavings collected by the dust collection system will be transferred pneumatically to a silo, which will be controlled by a cartridge filter system.

Support Operations

The heat energy system burns biomass (both clean wood and resinated wood) to supply heat to the 2-stage dryer system and will heat thermal oil for use at the press and for generating steam for the refiner. A urea/water solution is injected into the flue gas of the energy plant to provide NOX emissions control. Because the energy system exhausts into the dryers, the dryer control systems also provide emissions control for the energy system.

Natural gas is used for standby operations when the wood burners are offline. The backup natural gas dryer burners are ES-02C-1, ES-02C-2, and -02D and vent to the biofilter. The natural gas-fired thermal oil heaters are ES-18, -19, and -20 and are uncontrolled.

Arauco also operates emergency generators and fire pumps, as well as storage tanks for gasoline, diesel fuel, and resin at the Moncure mill.

V. Modification Discussion

Renewal Application No. 1900015.20A

As stated in Section I above this renewal application was submitted in a timely manner. The active permit at the time the renewal was submitted was revision no. T53. As seen in Section III above, the permit has been revised 13 times since the last renewal. With the exception of the three minor modifications below, all modifications have been subjected to EPA review and public notice procedures and are covered over the permit shield pursuant to 15A NCAC 02Q .0512. No specific discussion is necessary.

This renewal application was not submitted to modify the permit. However, since the last renewal three following minor modification applications have been processed.

App no. 20A – resulting in permit revision no. T53

App no. 21B – resulting in permit revision no. T55

App no.22A – resulting in permit revision no. T57

As this draft permit resulting from this renewal application will be subjected to public notice/EPA review procedures, the permit reviews for these three minor modifications will also be included as Attachments to this review document to allow the application of the permit shield pursuant to 15A NCAC 02Q .0512(a) to those modifications upon issuance of the renewed TV permit.

All further discussion will be made in context of the applicable air quality regulations and existing permit conditions.

Emissions Discussion

The header above shows the facility recent five-year emissions profile as represented by the emissions inventory submittals. Note the drop in emissions particularly in VOC emissions in 2020, corresponding to the shutdown of the particle board mill as well as the COVID pandemic.

VI. Regulatory Review

The regulatory applicability of all permitted sources will be discussed below. Sources will be grouped as possible to limit redundancy. The lettering convention below matches the lettering in the draft permit.

A. The following Material Handling Sources:

Emission Source ID No.	Emission Source Description	Control Device ID No.	Control Device Description
7001 or SP-1	Truck/Rail Chip Handling System, Enclosed	N/A	N/A
7004 or SP-2	Truck/Rail Sawdust Handling System, Enclosed	N/A	N/A
7010	Particle Board Mill Truck Dump	N/A	N/A
7012, 7014, 7015, 7029	Dump bunkers and CL dryer dump	N/A	N/A
7052, 7054, 7055, 7056	Wood residue bunkers	N/A	N/A
6001, 7002-A, 7002-B, 7002-C, 7002-D	Wood chip piles - Medium Density Fiberboard Mill	N/A	N/A
6003, 7006, 7007, 7022	Wood Fuel Pad and Boiler Transfers	N/A	N/A
7005-D, 7005-E, 7005-F, 7005-G	Sawdust transport to A-frame	N/A	N/A
7025	Scale transfer conveyors	N/A	N/A
7019, 7026	Fiber dump and reject filter bins	N/A	N/A
7027	Hog fuel hopper	N/A	N/A
7040, 7044, 7046, 7048, 7050	Particleboard Mill chip transfer	N/A	N/A
SP	Fuel Sawdust and Chip Storage Piles	N/A	N/A
7024	Particleboard Mill feed bins	N/A	N/A

These sources in the table above are material storage and handling sources that have fugitive air emissions, specifically particulate matter (PM). The sources have no defined emission points.

15A NCAC 02D .0540: PARTICULATES FROM FUGITIVE DUST EMISSION SOURCES

The requirements of this regulation require that the Permittee shall not cause or allow fugitive dust emissions to cause or contribute to substantive complaints or excess visible emissions beyond the property boundary. If substantive complaints or excessive fugitive dust emissions from the facility are observed beyond the property boundaries for six minutes in any one hour (using Reference Method 22 in 40 CFR, Appendix A), the owner or operator may be required to submit a fugitive dust plan as described in 02D .0540(f).

To date the DAQ has not received any substantive complaints regarding fugitive emissions from the facility. Continued compliance is expected.

The permit condition addressing this rule is contained in Section 4 General conditions of the permit and therefore applies facility-wide. Consistent with current DAQ policy, no specific mention is made to this rule in Section 2.1 of the permit. No M/R/R is required.

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

This regulation applies to fuel burning operations and industrial processes where visible emissions can be expected to occur.

As these sources were “manufactured” after July 1, 1971, the visible emissions from these sources shall not be more than 20 percent opacity when averaged over a six-minute period except for the following exceptions:

Six-minute averaging periods may exceed 20 percent opacity if:

- (1) no six-minute period exceeds 87 percent opacity;
- (2) no more than one six-minute period exceeds 20 percent opacity in any hour; and
- (3) no more than four six-minute periods exceed 20 percent opacity in any 24-hour period.

As discussed above the emissions from these sources are fugitive in nature. In general, the sources are not expected to have any visible emissions on a continuous basis but may have given the current environmental conditions (e.g., moisture, speed) or production activity.

The current permit contains no monitoring, recordkeeping or reporting. A review with other permitted similar sources shows that generally weekly or monthly monitoring is required for fugitive visible emissions. Weekly monitoring seems reasonable to ensure compliance with this regulation. To this end, and consistent with 15A NCAC 02Q .0508(f), the following monitoring will be added to the revised permit.

To ensure compliance, once a week the Permittee shall observe these sources for any visible emissions above normal. The weekly observation must be made for each day of the calendar year period to ensure compliance with this requirement. The weekly observation must be made for each week of the calendar year period to ensure compliance with this requirement. The Permittee shall establish “normal” for these sources in the first 30 days following the effective date of the permit. If visible emissions from these sources are observed to be above normal, the Permittee shall either:

- i. take appropriate action to correct the above-normal emissions as soon as practicable and within the monitoring period and record the action taken as provided in the recordkeeping requirements below, or
- ii. demonstrate that the percent opacity from the emission points of the emission source in accordance with 15A NCAC 02D .2610 (Method 9) for 12 minutes is below the limit given in Section 2.1 A.4.a (or b) above.

This monitoring strategy is based on the current “shell” monitoring strategy where a “normal” established and then observations are made to determine if the visible emissions are above that normal. If they are, the Permittee takes corrective action or does a Method 9 to demonstrate the opacity is below 20 percent. However, unlike the shell, this monitoring makes mention to “...observe these sources for any visible emissions...” instead of the shell language which states “...observe the emission points of these sources for any visible emissions...”. This makes more sense as these fugitive sources have no “emission points” per se.

Associated recordkeeping and semi-annual reporting consistent with Title V requirements pursuant to 15A NCAC 02Q .0508(f) will also be included.

State-enforceable only

15A NCAC 02D .1806: CONTROL AND PROHIBITION OF ODOROUS EMISSIONS

The requirements of this regulation will be discussed in the facility-wide regulatory consideration section of this review document.

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

(40 CFR 63, Subpart DDDD, National Emission Standards for Hazardous Air Pollutants: Plywood and Composite Wood Products)

Pursuant to 40 CFR 63.2232, these material handling operations are affected sources under this rule but have no applicable requirements. Pursuant to current DAQ policy, such sources are indicated as such in the equipment list (Section 1 of the air permit) with “MACT DDDD.” No further review is necessary.

B. Medium Density Fiberboard Facilities woodworking operations as presented in Table 2.1.B.**Table 2.1.B.**

Emission Source ID No.	Emission Source Description	Control Device ID No.	Control Device Description
ES-03	Fiber Sifter System	CD03	Fabric Filter (12,290 square feet of filter area)
ES-04	Forming Line Clean-Up System	CD04	Fabric Filter (9,346 square feet of filter area)
ES-05	Mat Reject System	CD05	Fabric Filter (9,346 square feet of filter area)
ES-07	Saw System	CD07	Fabric Filter (6,793 square feet of filter area)
ES-08	Sander System No. 1	CD08	Fabric Filter (12,290 square feet of filter area)
ES-09	Recycled Fiber Silo No. 1	CD09	Bin Vent Filter (226 square feet of filter area)
ES-10	Sander System No. 2	CD10	Fabric Filter (12,290 square feet of filter area)
ES-12	Sander Dust Silo No. 1	CD12	Bin Vent Filter (226 square feet of filter area)
ES-13	Dry Sawdust Silo	CD13	Bin Vent Filter (226 square feet of filter area)
ES-15	Recycled Fiber Silo No. 2	CD15	Bin Vent Filter (226 square feet of filter area)
ES-17	Sander Dust Silo No. 2	CD17	Bin Vent Filter (226 square feet of filter area)

These material handling operations are all controlled with filtration systems and are associated with the MDF plant. They emit primarily PM emissions.

15A NCAC 02D .0512: PARTICULATES FROM WOOD PRODUCTS FINISHING PLANTS

This rule requires properly designed collectors for the control of PM emissions. Based on the lack of complaints or compliance issues associated with these sources, these sources appear to have properly designed collectors. The current permit contains the standard M/R/R requirements for filtration-controlled PM emission sources. No substantive changes will be made to the existing permit condition. Continued compliance is expected.

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

This regulation applies to fuel burning operations and industrial processes where visible emissions can be expected to occur.

As these sources were “manufactured” after July 1, 1971, the visible emissions from these sources shall not be more than 20 percent opacity when averaged over a six-minute period except for the following exceptions:

Six-minute averaging periods may exceed 20 percent opacity if:

- (1) no six-minute period exceeds 87 percent opacity.
- (2) no more than one six-minute period exceeds 20 percent opacity in any hour; and
- (3) no more than four six-minute periods exceed 20 percent opacity in any 24-hour period.

The current permit contains monitoring requirements that consist of weekly observations of the emission points of these sources for any visible emissions above normal. If visible emissions from these sources are observed to be above normal, the Permittee shall either:

- i. Take appropriate action to correct the above-normal emissions as soon as practicable and within the monitoring period and record the action taken as provided in the recordkeeping requirements, or
- ii. Demonstrate that the percent opacity from the emission points of the emission source in accordance with 15A NCAC 02D .2610 (Method 9) for 12 minutes is below the applicable opacity limit.

Recordkeeping for the results of the monitoring requirements and a semiannual summary report of the monitoring and recordkeeping requirements is also required.

No substantial changes to the existing permit are necessary. Continued compliance with this regulation is expected.

15A NCAC 02D. 0530: PREVENTION OF SIGNIFICANT DETERIORATION

The requirements of this regulation will be discussed in the facility-wide regulatory consideration section of this review document.

**15A NCAC 02D .1111: MAXIMUM ACHIEVABLE CONTROL TECHNOLOGY
(40 CFR 63, Subpart DDDD, National Emission Standards for Hazardous Air Pollutants: Plywood and Composite Wood Products)**

Pursuant to 40 CFR 63.2232, these material handling operations are affected sources under this rule but have no applicable requirements. Pursuant to current DAQ policy, such sources are indicated as such in the equipment list (Section 1 of the air permit) with “MACT DDDD.” No further review is necessary.

STATE ENFORCEABLE ONLY

15A NCAC 02D .1806: CONTROL AND PROHIBITION OF ODOROUS EMISSIONS

The requirements of this regulation will be discussed in the facility-wide regulatory consideration section of this review document.

15A NCAC 02Q. 0317: AVOIDANCE CONDITIONS for 15A NCAC 02D. 0530: PREVENTION OF SIGNIFICANT DETERIORATION

The requirements of this regulation will be discussed in the facility-wide regulatory consideration section of this review document.

C. Medium Density Fiberboard Facilities Operations as presented in Table 2.1 C.

Table 2.1.C.

Emission Source ID No.	Emission Source Description	Control Device ID No.	Control Device Description	Emission Point
ES-01	Refiner	CD01	Refiner Abort Cyclone (66 inches in diameter) ¹	EP01
		CD02 in series with CD18	Venturi scrubber Biofilter	EP18
		CD14 In series with CD18	Venturi scrubber Biofilter	EP18
ES-02-A	Energy System consisting of a dry/wet wood/woodwaste-fired burner (205 million Btu per hour heat input)	CD02-A	Urea/water injection system	EP18
		CD02 In series with CD18	Venturi scrubber Biofilter	EP18
		CD14 In series with CD18	Venturi scrubber Biofilter	EP18
ES-02-B	Two Stage Dryer System	CD02 In series with CD18	Venturi scrubber Biofilter	EP18
ES-02-C-1, ES-02-C-2 and ES-02-D	Three backup natural gas-fired dryer burners (35, 35 and 17 million Btu per hour heat input respectively)	CD14 In series with CD18	Venturi scrubber Biofilter	EP18
ES-06-B	MDF Board Cooler	NA	NA	EP-06-B
ES-16	MDF Press and Press Hall	CD02 In series with CD18	Venturi scrubber Biofilter	EP18
		CD14 In series with CD18	Venturi scrubber Biofilter	EP18

These sources are the primary sources of the facility's VOC, HAP, TAP and combustion emissions. Please see Section III above for a full description of these operations. Note only the board cooler has uncontrolled emissions.

15A NCAC 02D .0515: PARTICULATES FROM MISCELLANEOUS INDUSTRIAL PROCESSES

This rule applies to stacks, vents, or outlets emitting particulates from industrial processes with no other applicable standards. The allowable emission rate is in terms of pounds per hour and is calculated using the following equations:

$$\begin{aligned} \text{For process rates up to 30 tons per hour:} & \quad E = 4.10(P)^{0.67} \\ \text{For process rates greater than 30 tons per hour:} & \quad E = 55.0(P)^{0.11} - 40 \end{aligned}$$

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

² For operation during startup, shutdown and malfunction only.

As described in Section IV above, all of these sources, with the exception of the board cooler, have commingled emissions and eventually pass through the venturi scrubbers, then the biofilters, and then to the atmosphere. Note the board cooler is expected to have very low, if any PM emissions.

These sources are subject to the following testing schedule at Section 2.1 C.1.c:

Under the provisions of NCGS 143-215.108, the Permittee shall demonstrate compliance with the emission limit above on an annual basis by testing the emission point EP18 in accordance with General Condition JJ. If the results of this test are less than 80 percent of the emission limit in section 2.1 C.1.a above, the Permittee shall be required to stack test only once every five years following the previous stack test.

The most recent source test for PM was conducted on October 20 and 21, 2021. The following results are excerpted from the source memo dated December 22, 2021 (DAQ Tracking No. 2021-251ST):

Table 1. PM, NO_x, and VOC Emissions Test Results October 20, 2021

Pollutant	Emission Rate	Emission Limit	Regulation	Compliance
Filterable PM	0.22 lb/ODMT	---	---	---
Condensable PM	0.07 lb/ODMT	---		
Total PM	0.29 lb/ODMT	0.51 lb/ODMT	2Q .0317	Yes
	9.61 lb/hr	41.66 lb/hr	2D .0515	

Since the result of the test was less than 80 percent of the emission limit, the Permittee shall not be required to stack test for PM for another five years. The Permit will be revised to read as follows:

Under the provisions of NCGS 143-215.108, the Permittee shall demonstrate compliance with the emission limit above on an annual basis by testing the emission point EP18 in accordance with General Condition JJ. Each test shall be conducted within 13 months of the previous test. If the results of this test are less than 80 percent of the emission limit in Section 2.1 C.1.a above, the Permittee shall be required to stack test within 61 months of the previous stack test.

This change will allow some operational flexibility and ensure that each test is spread out and approximately 1 year (or 5 years) apart.

Since the primary control for PM is the venturi scrubbers, monitoring requirements include keeping the pressure drops across the venturi and the recirculating liquid flow rate above minimum 3-hour block average values that are listed in the permit. Although the biofilter may contribute to PM control, the biofilter is primarily for control of organic HAP/TAP and VOC emissions. Excess PM emissions are expected to compromise the performance of the biofilter. Thus, any PM emissions to the biofilter are minimized. In addition, MACT DDDD (see discussion elsewhere) allows for control device maintenance downtime for the biofilter during normal production and operation. Hence the venturi scrubbers may at sometimes be the last control device seen prior to the atmosphere. In summary, no monitoring is required for the biofilter as it is not necessary for compliance with this rule.

Consistent with 15A NCAC 02Q .0508(f) associated recordkeeping and semiannual reporting is also required.

The permit condition will be revised to clarify that during performance testing, the monitoring parameters do not apply (although compliance with the standard does apply) thus enabling the Permittee to revise the monitoring parameters if it chooses to do so. The following language will be added to the permit condition to clarify that the monitoring parameters need to be confirmed or reestablished after each test. The language also clarifies when a permit application is required (when more stringent) and when it is optional (when less stringent).

Compliance with the parameters in Section Table 2.1 C.1.d above is not required during performance testing. Parameters shall be confirmed or reestablished during performance testing.

If the Permittee conducts testing that results in monitoring parameter(s) that:

- (A) are more stringent than those in Table 2.1 C.1.d above, the Permittee shall submit a request to revise the value(s) at the same time a test report required pursuant to General Condition JJ is submitted. The permit revision will be processed pursuant to 15A NCAC 02Q .0514.
- (B) are less stringent than those in Table 2.1 C.1.d above, the Permittee may request to revise the value(s) in the permit pursuant to 15A NCAC 02Q .0515.

No other substantial changes are necessary. Continued compliance is expected.

15A NCAC 02D .0516: SULFUR DIOXIDE EMISSIONS FROM COMBUSTION SOURCES

This regulation applies to any combustion source that emits sulfur dioxide formed by the combustion of sulfur in fuels, wastes, ores, and other substances. Emissions of sulfur dioxide from these sources shall not exceed 2.3 pounds per million Btu heat input. When determining compliance with this standard:

- (1) the sulfur dioxide formed by the combustion of sulfur in fuels, wastes, ores, and other substances shall be included;
- (2) the sulfur dioxide formed or reduced as a result of treating flue gases with sulfur trioxide or other materials shall be included in the computation of emissions; and
- (3) the determination of Btu input shall not include the contribution from any portion of fuels used exclusively to inflate the heat input value used to demonstrate compliance with the emission standard in Paragraph (a) of this Rule

This regulation applies to the following combustion sources: the Energy System (**ID No. ES-02-A**) and the two-stage dryer system (**ID No. ES-02-B**) with three backup natural gas-fired burners (**ID Nos. ES-02-C-1 and -2 and ES-02-D**)

SO₂ emissions originate from the firing of natural gas, wood or woodwaste. No SO₂ generation is expected from the other processes included here. The SO₂ emissions from firing natural gas, wood, and woodwaste (all of which have an inherently low sulfur content) in these sources are expected to be well below the allowable limit. Consistent with current DAQ policy, no testing, monitoring, recordkeeping, and reporting is required to demonstrate compliance with this standard. Continued compliance is expected.

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

This regulation applies to fuel burning operations and industrial processes where visible emissions can be expected to occur.

As these sources were “manufactured” after July 1, 1971, the visible emissions from these sources shall not be more than 20 percent opacity when averaged over a six-minute period except for the following exceptions:

Six-minute averaging periods may exceed 20 percent opacity if:

- (1) no six-minute period exceeds 87 percent opacity;
- (2) no more than one six-minute period exceeds 20 percent opacity in any hour; and
- (3) no more than four six-minute periods exceed 20 percent opacity in any 24-hour period.

The current permit contains monitoring requirements that consist of weekly observations of the emission points of these sources for any visible emissions above normal. If visible emissions from these sources are observed to be above normal, the Permittee shall either:

- i. Take appropriate action to correct the above-normal emissions as soon as practicable and within the monitoring period and record the action taken as provided in the recordkeeping requirements, or
- ii. Demonstrate that the percent opacity from the emission points of the emission source in accordance with 15A NCAC 02D .2610 (Method 9) for 12 minutes is below the applicable opacity limit.

Recordkeeping for the results of the monitoring requirements and a semiannual summary report of the monitoring and recordkeeping requirements is also required.

Continued compliance with this regulation is expected.

15A NCAC 02D. 0530(U): USE OF PROJECTED ACTUAL EMISSIONS TO AVOID APPLICABILITY OF PREVENTION OF SIGNIFICANT DETERIORATION REQUIREMENTS

15A NCAC 02D .0530(u) allows for the Permittee to use estimates of future emissions associated with a specific modification to address PSD applicability. Assuming the Permittee stays below these “projected actual emissions” estimates, the modification will not be subject to PSD review. These recordkeeping requirements stay in effect either five or ten years, starting with the beginning of operation of the source(s) after the modification. If the actual emissions remain below the “projected actual emissions,” for the entire five- or ten-year period, the recordkeeping requirements expire and are subsequently removed from the permit.

Arauco has such a recordkeeping condition at Section 2.1 C.6 of the permit for two projects that were addressed in Application nos. 17D and 18A. See Section III above. Recordkeeping started following the resumption of regular operations after the modifications described in application no. 1900015.17D and shall continue for ten years after the resumption of regular operations after the modifications described in application no. 1900015.18A. Thus, the recordkeeping requirement is still on going. To date, there have been no issues with respect to this condition. Continued compliance is expected.

15A NCAC 02D .0614: COMPLIANCE ASSURANCE MONITORING [40 CFR 64]

The requirements of this regulation will be discussed in the facility-wide regulatory consideration section of this review document.

15A NCAC 02D. 0530: PREVENTION OF SIGNIFICANT DETERIORATION

The requirements of this regulation will be discussed in the facility-wide regulatory consideration section of this review document.

15A NCAC 02D .1111: MAXIMUM ACHIEVABLE CONTROL TECHNOLOGY (40 CFR 63, Subpart DDDD, National Emission Standards for Hazardous Air Pollutants: Plywood and Composite Wood Products)

The sources are the primary MACT DDDD affected sources and have substantial compliance requirements. The requirements of this regulation will be discussed in the facility-wide regulatory consideration section of this review document.

STATE ENFORCEABLE ONLY

15A NCAC 02D .1806: CONTROL AND PROHIBITION OF ODOROUS EMISSIONS

The requirements of this regulation will be discussed in the facility-wide regulatory consideration section of this review document.

15A NCAC 02Q. 0317: AVOIDANCE CONDITIONS for 15A NCAC 02D. 0530: PREVENTION OF SIGNIFICANT DETERIORATION

The requirements of this regulation will be discussed in the facility-wide regulatory consideration section of this review document.

D. Three natural gas-fired hot oil heaters (30.4 million Btu per hour maximum heat input each) (ID Nos ES-18, ES-19, and ES-20)

These heaters serve as backup units to replace or augment the heat supplied by the energy system. These heaters are indirect heat exchangers with natural gas combustion emissions that are uncontrolled.

15A NCAC 02D .0503: PARTICULATES FROM FUEL BURNING INDIRECT HEAT EXCHANGERS

This regulation applies to particulate matter emissions from the combustion of fuel in indirect heat exchangers, such as these hot oil heaters, that are discharged from any stack or chimney into the atmosphere. Fuel burning indirect heat exchangers (FBIHE) are limited to particulate matter emissions under this rule by the following equation:

$$E = 1.090 * Q^{(-0.2594)}$$

Where:

E = allowable emission limit for particulate matter in lb/million Btu.

Q = maximum heat input in million Btu/hour.

The emission limitation for a given source is determined as a function of the total heat input to all such sources on site at the time the particular source was permitted. Also, once a limit has been established for a source, it shall not be changed upon the permitting of additional sources.

The current permit contains a PM emission limit of 0.25 lb/MMBtu and was established in permit revision No. T50 issued November 14, 2018. However, this limit is incorrect. The limit was revised when the burners of each heater was replaced with larger burners. The heat inputs of each of the heaters was revised from 24 MMBtu/hr to 30.4 MMBtu/hr each. The review at that mistakenly included some combustion sources that were not indirect-fired. A review of the existing FBIHE on site at that time should have yielded the following:

These three hot oil heaters each have a heat input of 30.4 MM/Btu/hr each or 91.6 MMBtu/hr total. The hot oil heater at the laminator mill has a heat input of 4.7 MM/Btu/hr.

Therefore, the total heat input from all **non-wood**-fired on-site heat exchangers should have been 95.9 MMBtu/hr at that time. Using the equation above, the allowable emission limit for particulate matter for these three oil heaters should be 0.33 lb/MMBtu instead of 0.25 lb/MMBtu. Based on AP-42 emission factors for natural gas combustion, the PM emissions are expected to be 0.007 lb/MMBtu. Continued compliance with this PM standard is expected. Consistent with current permit DAQ policy, no M/R/R/ is required for PM emissions from the firing of natural gas in these sources.

15A NCAC 02D .0516: SULFUR DIOXIDE EMISSIONS FROM COMBUSTION SOURCES

This regulation applies to any combustion source that emits sulfur dioxide formed by the combustion of sulfur in fuels, wastes, ores, and other substances. Emissions of sulfur dioxide from these sources shall not exceed 2.3 pounds per million Btu heat input. When determining compliance with this standard:

- (1) the sulfur dioxide formed by the combustion of sulfur in fuels, wastes, ores, and other substances shall be included;
- (2) the sulfur dioxide formed or reduced as a result of treating flue gases with sulfur trioxide or other materials shall be included in the computation of emissions; and
- (3) the determination of Btu input shall not include the contribution from any portion of fuels used exclusively to inflate the heat input value used to demonstrate compliance with the emission standard in Paragraph (a) of this Rule

SO₂ emissions originate from the firing of natural gas in these oil heaters. The SO₂ emissions from firing natural gas (which has inherently low sulfur) in these sources are expected to be well below the allowable limit. Consistent with current DAQ policy, no testing, monitoring, recordkeeping and reporting is required to demonstrate compliance with this standard. Continued compliance is expected.

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

This regulation applies to fuel burning operations and industrial processes where visible emissions can be expected to occur.

As these sources were manufactured after July 1, 1971, the visible emissions from these sources shall not be more than 20 percent opacity when averaged over a six-minute period except for the following exceptions:

Six minute averaging periods may exceed 20 percent opacity if:

- (1) no six-minute period exceeds 87 percent opacity;
- (2) no more than one six-minute period exceeds 20 percent opacity in any hour; and
- (3) no more than four six-minute periods exceed 20 percent opacity in any 24-hour period.

Given the low visible emissions typically produced by combustion sources firing only natural gas and consistent with current DAQ permitting policy, no monitoring/recordkeeping/reporting is required for visible emissions from the firing of natural gas in these sources. Continued compliance is expected.

15A NCAC 02D .0524: NEW SOURCE PERFORMANCE STANDARDS

(40 CFR Part 60 Subpart Dc, “Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units)

These hot oil heaters each meet the definition of a “steam generating unit” pursuant to 40 CFR 60.41c, were constructed after June 9, 1989, and maximum design heat input capacity of 100MMBtu/h) or less, but greater than or equal to 10 MMBtu/h. As such these sources are subject to this regulation. Since they burn only natural gas, these sources are only subject to the monthly fuel recordkeeping and construction and start up notification requirements. The construction notification requirement was satisfied with the permit application. The startup notification requirements were satisfied in March 1, 2019. The permit will be revised to remove the startup notification requirement. Continued compliance with this rule is expected.

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

(40 CFR Part 63 Subpart DDDDD (5D), “National Emission Standards for Hazardous Air Pollutants for Industrial, Commercial, and Institutional Boilers and Process Heaters”)

These natural gas -fired oil heaters were originally permitted in permit revision no. T35 issued October 15, 2009. In June 2018, Arauco submitted permit application 1900015.18A. Within this permit application was the request to replace the natural gas burners in each of these oil heaters. The heat inputs changed from 26 MMBtu/hr each to 30.4 MMBtu/hr each. The oil heaters (defined as boilers under MACT DDDD) with the new burners were deemed new under MACT DDDD which requires annual tune ups. Permit revision no. T50 was issued November 21, 2018. The burners were replaced, and startup occurred March 1, 2019. When the burners were replaced, the new units were equipped with oxygen trim systems. Arauco submitted the permit application no. 1900015.19C to have the tune-up frequency language revised from every year to every five years pursuant to 63.7540(12). Permit revision no. T52 was issued on January 2, 2020, with these revised tune-up requirements.

The current permit reflects this five-year tune-up frequency and associated recordkeeping and reporting. Since startup of or these sources occurred on March 1, 2019, as mentioned above, the first tune-ups are required by April 1, 2024 (within 61 months of startup, see 63.7515(d) and the five-year report was due on December 31, 2023, covering the period beginning on start-up and ending on the earliest December 31st less than five years from startup as specified in 63.7550(b)(1).

Note that the current permit incorrectly stated the following:

The first report shall cover the period beginning on the compliance date specified in Section 2.1 D.5 d (i.e., start-up) and ending on the earliest December 31st less than one year from the compliance date. Subsequent 5-year reports shall cover the periods from January 1 to December 31.

This will be corrected in the revised draft permit. Continued compliance with this rule is expected.

15A NCAC 02D. 0530: PREVENTION OF SIGNIFICANT DETERIORATION

The requirements of this regulation will be discussed in the facility-wide regulatory consideration section of this review document.

STATE ENFORCEABLE ONLY

15A NCAC 02D .1806: CONTROL AND PROHIBITION OF ODOROUS EMISSIONS

The requirements of this regulation will be discussed in the facility-wide regulatory consideration section of this review document.

15A NCAC 02Q. 0317: AVOIDANCE CONDITIONS for 15A NCAC 02D. 0530: PREVENTION OF SIGNIFICANT DETERIORATION

The requirements of this regulation will be discussed in the facility-wide regulatory consideration section of this review document.

E. Sawdust Rock and Metal Separator (ID No. 3501) controlled by a cyclone (ID No. CD-SC) in series with a bagfilter (ID No. CD-3501)

This equipment is some of the remaining equipment from the Particleboard Mill operations that were shut down in April 2020 and removed from permit revision no. T54. See Section III above. They are sources of PM and VOC emissions.

15A NCAC 02D .0512: PARTICULATES FROM WOOD PRODUCTS FINISHING PLANTS

This rule requires properly designed collectors for the control of PM emissions. Based on the lack of complaints or compliance issues associated with these sources, these sources appear to have properly designed collectors. The current permit contains the standard M/R/R requirements for cyclone and filtration-controlled PM emission sources. No substantive changes will be made to the existing permit condition. Continued compliance is expected.

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

This regulation applies to fuel burning operations and industrial processes where visible emissions can be expected to occur.

As these sources were “manufactured” after July 1, 1971, the visible emissions from these sources shall not be more than 20 percent opacity when averaged over a six-minute period except for the following exceptions:

Six minute averaging periods may exceed 20 percent opacity if:

- (1) no six-minute period exceeds 87 percent opacity;
- (2) no more than one six-minute period exceeds 20 percent opacity in any hour; and
- (3) no more than four six-minute periods exceed 20 percent opacity in any 24-hour period.

The current permit contain monitoring requirements that consist of weekly observations of the emission points of this source for any visible emissions above normal. If visible emissions from this source is observed to be above normal, the Permittee shall either:

- i. Take appropriate action to correct the above-normal emissions as soon as practicable and within the monitoring period and record the action taken as provided in the recordkeeping requirements, or
- ii. Demonstrate that the percent opacity from the emission points of the emission source in accordance with 15A NCAC 02D .2610 (Method 9) for 12 minutes is below the applicable opacity limit.

Recordkeeping for the results of the monitoring requirements and a semiannual summary report of the monitoring and recordkeeping requirements is also required.

Continued compliance with this regulation is expected.

15A NCAC 02D .0530: PREVENTION OF SIGNIFICANT DETERIORATION

This remaining equipment from the dismantled PB mill has the following BACT limits that were established over 20 years ago (prior to available records).

Emission Source	Pollutants	Emission Limits^{*,**}	Control Technology
Sawdust Rock and Metal Separator (ID No. 3501)	PM ₁₀	0.02 lbs/hr	cyclone and baghouse
	VOC	5.56 lbs/hr, as C	none
	Opacity	20 percent	cyclone and baghouse

- * BACT limits shall apply at all times. However, emissions resulting from startup, shutdown or malfunction as defined under 15A NCAC 02D .0535, exceeding the limits above are permitted, provided that the Permittee, to the extent practicable, maintains and operates each emission source including any associated air pollution control equipment listed in this Table, in a manner consistent with good air pollution control practice for minimizing emissions.

The permit requires monitoring and recordkeeping and reporting that is equivalent to that required under 02D .0512, and 0521. Thus, these conditions will be streamlined to reference those requirements. No changes in intent are being made. Continued compliance with this rule is expected.

**15A NCAC 02D .1111: MAXIMUM ACHIEVABLE CONTROL TECHNOLOGY
(40 CFR 63, Subpart DDDD, National Emission Standards for Hazardous Air Pollutants: Plywood and Composite Wood Products)**

Pursuant to 40 CFR 63.2232, these material handling operations are affected sources under this rule but have no applicable requirements. Pursuant to current DAQ policy, such sources are indicated as such in the equipment list (Section 1 of the air permit) with “MACT DDDD.” No further review is necessary.

STATE ENFORCEABLE ONLY

15A NCAC 02D .1806: CONTROL AND PROHIBITION OF ODOROUS EMISSIONS

The requirements of this regulation will be discussed in the facility-wide regulatory consideration section of this review document.

F. Two Short Cycle Laminating Presses (ID Nos. 3593 and 3594) controlled by one bagfilter (ID No. CD-3593)

The board laminating presses takes resin-impregnated papers and bonds (presses) them to MDF boards. The press includes a natural gas fuel oil fired thermal oil heater (see separate regulatory review below). Emissions from this operation include uncontrolled VOC (formaldehyde) that are released during pressing (heating), particulates from sweeping and trimming activities which will be controlled by a bagfilter, and the uncontrolled emissions from the firing of natural gas in the thermal oil heater (see separate regulatory review below).

15A NCAC 02D .0515: PARTICULATES FROM MISCELLANEOUS INDUSTRIAL PROCESSES

This rule applies to stacks, vents, or outlets emitting particulates from industrial processes with no other applicable standards. The allowable emission rate is in terms of pounds per hour and is calculated using the following equations:

$$\begin{array}{lcl} \text{For process rates up to 30 tons per hour:} & E & = & 4.10(P)^{0.67} \\ \text{For process rates greater than 30 tons per hour:} & E & = & 55.0(P)^{0.11} - 40 \end{array}$$

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

One press was permitted in permit no. T28 and the second one in permit no. T30. The following is an excerpt from the review for permit no. T30.

The proposed short cycle laminating press has a design throughput rate of 18,000 ft²/hr. Assuming a particleboard thickness of ¾ inches and density of 42 lbs/ft³, the maximum process weight rate is 23.6 tons per hour (tph) (18,000 ft²/hour * ¾ inches / 12 inches/ft * 42 lbs/ft³ / 2,000 lbs/ton = 23.6 tph). Therefore, the maximum allowable PM emission rate pursuant to 15A NCAC 2D .0515 is 34.09 lbs/hr (4.1*23.6^{0.67}=34.09).

Using the AP-42 emission factor for controlled emissions for sawing of engineered wood (0.41 lbs/1,000 ft³ Table 10.9-7), the maximum, controlled PM emission rate from the sweeping and trimming operations at the new press are estimated to be 0.46 lbs/hr. This estimated emission rate is well below the allowable limit.

The presses sources comply with the PM emission limitations by using the bagfilter.

Monitoring requirements consist of the performance of inspections and maintenance as recommended by the manufacturer. In addition to the manufacturer's inspection and maintenance recommendations, or if there are no manufacturer's inspection and maintenance recommendations, as a minimum, the inspection and maintenance requirement shall include the following:

- i. An annual visual inspection of the system ductwork and material collection unit for leaks; and
- ii. An annual (for each 12-month period following the initial inspection) internal inspection of the system's structural integrity.

Recordkeeping for the results of the monitoring requirements and a semiannual summary report of the monitoring and recordkeeping requirements is also required.

Continued compliance is expected.

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

This regulation applies to fuel burning operations and industrial processes where visible emissions can be expected to occur.

As these sources were "manufactured" after July 1, 1971, the visible emissions from these sources shall not be more than 20 percent opacity when averaged over a six-minute period except for the following exceptions:

Six minute averaging periods may exceed 20 percent opacity if:

- (1) no six-minute period exceeds 87 percent opacity;
- (2) no more than one six-minute period exceeds 20 percent opacity in any hour; and
- (3) no more than four six-minute periods exceed 20 percent opacity in any 24-hour period.

The current permit contain monitoring requirements that consist of weekly observations of the emission points of this source for any visible emissions above normal. If visible emissions from this source is observed to be above normal, the Permittee shall either:

- i. Take appropriate action to correct the above-normal emissions as soon as practicable and within the monitoring period and record the action taken as provided in the recordkeeping requirements, or
- ii. Demonstrate that the percent opacity from the emission points of the emission source in accordance with 15A NCAC 02D .2610 (Method 9) for 12 minutes is below the applicable opacity limit.

Recordkeeping for the results of the monitoring requirements and a semiannual summary report of the monitoring and recordkeeping requirements is also required.

Continued compliance with this rule is expected.

STATE ENFORCEABLE ONLY

15A NCAC 02D .1806: CONTROL AND PROHIBITION OF ODOROUS EMISSIONS

The requirements of this regulation will be discussed in the facility-wide regulatory consideration section of this review document.

G. Natural gas-fired hot oil heater (4.7 million Btu per hour heat input) used with the short cycle laminating presses (ID No. Pr-Heat1)

As discussed in F above, this hot oil heater provides the hot oil for the presses discussed in F above. It is an indirect heat exchanger that only fires natural gas.

15A NCAC 02D .0503: PARTICULATES FROM FUEL BURNING INDIRECT HEAT EXCHANGERS

This regulation applies to particulate matter emissions from the combustion of fuel in indirect heat exchangers, such as this hot oil heaters, that are discharged from any stack or chimney into the atmosphere. Fuel burning indirect heat exchangers (FBIHE) are limited to particulate matter emissions under this rule by the following equation:

$$E = 1.090 * Q^{(-0.2594)}$$

Where:

E = allowable emission limit for particulate matter in lb/million Btu.

Q = maximum heat input in million Btu/hour.

The emission limitation for a given source is determined as a function of the total heat input to all such sources on site at the time the particular source was permitted. Also, once a limit has been established for a source, it shall not be changed upon the permitting of additional sources.

The PM emission limit of 0.60 lb/MMBtu was established when the oil heater was originally permitted in permit revision no. T28.

Because of the inherently low PM emissions from natural gas firing and consistent with current DAQ permitting policy, no monitoring, recordkeeping, or reporting is required to demonstrate compliance with this standard. Continued compliance with this standard is expected.

15A NCAC 02D .0516: SULFUR DIOXIDE EMISSIONS FROM COMBUSTION SOURCES

This regulation applies to any combustion source that emits sulfur dioxide formed by the combustion of sulfur in fuels, wastes, ores, and other substances. Emissions of sulfur dioxide from these sources shall not exceed 2.3 pounds per million Btu heat input. When determining compliance with this standard:

- (1) the sulfur dioxide formed by the combustion of sulfur in fuels, wastes, ores, and other substances shall be included;
- (2) the sulfur dioxide formed or reduced as a result of treating flue gases with sulfur trioxide or other materials shall be included in the computation of emissions; and
- (3) the determination of Btu input shall not include the contribution from any portion of fuels used exclusively to inflate the heat input value used to demonstrate compliance with the emission standard in Paragraph (a) of this Rule

SO₂ emissions originate from the firing of natural gas in this oil heater. The SO₂ emissions from firing natural gas (which has inherently low sulfur) in this source are expected to be well below the allowable limit. Consistent with current DAQ policy, no testing, monitoring, recordkeeping, and reporting is required to demonstrate compliance with this standard. Continued compliance is expected.

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

This regulation applies to fuel burning operations and industrial processes where visible emissions can be expected to occur.

As this source was manufactured after July 1, 1971, the visible emissions from these sources shall not be more than 20 percent opacity when averaged over a six-minute period except for the following exceptions:

Six minute averaging periods may exceed 20 percent opacity if:

- (1) no six-minute period exceeds 87 percent opacity;
- (2) no more than one six-minute period exceeds 20 percent opacity in any hour; and
- (3) no more than four six-minute periods exceed 20 percent opacity in any 24-hour period.

Given the low visible emissions typically produced by combustion sources firing only natural gas and consistent with current DAQ permitting policy, no monitoring, recordkeeping, or reporting is required to demonstrate compliance with this standard. Continued compliance is expected.

**15A NCAC 02D .1111: MAXIMUM ACHIEVABLE CONTROL TECHNOLOGY
(40 CFR Part 63 Subpart DDDDD (5D), “National Emission Standards for Hazardous Air Pollutants for Industrial, Commercial, and Institutional Boilers and Process Heaters”)**

This oil heater was originally permitted in permit revision no. T28 issued January 25, 2006. This heater was subject to Case-by-Case MACT provisions under 112(j) starting October 18, 2010. With the promulgation of MACT 5D, the applicability of the CAA §112(j) requirements sunset on May 19, 2019, after which the Permittee was required to comply with MACT 5D. Pursuant to 40 CFR 63.56(b), the DAQ is required to incorporate the requirements of MACT 5D in the Title V permit upon its next renewal and establish a compliance date that is not longer than 8 years after the standard is promulgated or the Permittee was first required to comply with the case-by-case standard, whichever is earlier. Thus, the compliance date for MACT 5D was determined to be May 20, 2019. The MACT 5D requirements were incorporated into the TV permit during the last permit renewal (permit revision no. T45 issued July 1, 2016).

As an existing source designed to burn gas 1 fuels with a heat input capacity of less than or equal to 5 million Btu per hour), the following are the primary requirements under MACT 5D.

- Initial tune up
- One time energy assessment.
- Tune-ups every five years.
- An initial notification of compliance status report.

The current contains the following reporting requirement:

The Permittee shall submit compliance reports to the DAQ on a 5-year basis. The first report shall cover the period beginning on the compliance date specified in condition d. and ending on the earliest December 31st following a complete 5-year period. Subsequent 5-year reports shall cover the periods from January 1 to December 31. The Permittee shall submit the compliance reports postmarked on or before January 31. [40 CFR 63.7550(a), (b)]

However, the MACT DDDDD was revised since the last permit renewal and now 40 CFR 63.7550(b)(1) now requires:

If submitting an annual, biennial, or 5-year compliance report, the first compliance report must cover the period beginning on the compliance date that is specified for each boiler or process heater in § 63.7495 (i.e., May 19, 2019 in this case) and ending on December 31 within 1, 2, or 5 years, as applicable, after the compliance date (i.e., December 31, 2023 in this case) that is specified for your source in § 63.7495.

Thus, the permit will be revised as follows:

The Permittee shall submit compliance reports to the DAQ on a 5-year basis. The first report shall cover the period beginning on May 20, 2019 and ending on December 31, 2023. Subsequent 5-year reports shall cover the periods from January 1 to December 31. The Permittee shall submit the compliance reports postmarked on or before January 30 for the preceding reporting period. [40 CFR 63.7550(a), (b)]

The current permit reflects the five-year tune-up frequency and associated recordkeeping and reporting. Based on compliance inspection reports, the Permittee has completed all the initial compliance requirements. The permit will be revised to memorialize all the satisfied compliance milestones. Continued compliance is expected.

H. The following sources for the Medium Density Fiberboard Facilities:**Table 2.1 H.1**

Emission Source ID No.	Emission Source Description	Control Device ID No.	Control Device Description
MDF Moulding Line Operations consisting of:			
ES-M1A MACT DDDD	MDF moulding line 1 – moulding zone consisting of rip saw, moulder and sanders	CD-4005	Reverse flow bag filter with 6,918 square feet of surface area
ES-M2A MACT DDDD	MDF moulding line 2 – moulding zone consisting of rip saw, moulder and sanders	CD-5001	in parallel with
ES-M3A MACT DDDD	MDF moulding line 3 – moulding zone consisting of rip saw, moulder and sanders		Reverse flow bag filter with 6,918 square feet of surface area
ES-M1B MACT DDDD	MDF moulding line 1 - coating and drying zone consisting of spray coater and a natural gas-fired drying oven (two burners, 1.3 million Btu per hour each)	NA	NA
ES-M2B MACT DDDD	MDF moulding line 2 - coating and drying zone consisting of spray coater and a natural gas-fired drying oven (two burners, 1.3 million Btu per hour each)	N/A	N/A
ES-M3B MACT DDDD	MDF moulding line 3 - coating and drying zone consisting of spray coater and a natural gas-fired drying oven (two burners, 1.3 million Btu per hour each)	N/A	N/A
ES-MSS1 MACT DDDD	MDF moulding line shavings silo	CD-MSS1	Cartridge filter (1,500 square feet of surface area)

These sources are described in Section III above. They emit PM, combustion emissions, VOCs, HAPs and TAPs.

15A NCAC 02D .0512: PARTICULATES FROM WOOD PRODUCTS FINISHING PLANTS

This rule requires properly designed collectors for the control of PM emissions. This rule applies only the moulding zones from these sources (**ID Nos. ES-M1A, -M2A, -M3A and ES-MSS1 only**). Based on the lack of complaints or compliance issues associated with these sources, these sources appear to have properly designed collectors. The current permit contains the standard M/R/R requirements for cyclone and filtration-controlled PM emission sources. No substantive changes will be made to the existing permit condition. Continued compliance is expected.

15A NCAC 02D .0515: PARTICULATES FROM MISCELLANEOUS INDUSTRIAL PROCESSES

This rule applies to stacks, vents, or outlets emitting particulates from industrial processes with no other applicable standards. The allowable emission rate is in terms of pounds per hour and is calculated using the following equations:

$$\begin{aligned} \text{For process rates up to 30 tons per hour:} & \quad E = 4.10(P)^{0.67} \\ \text{For process rates greater than 30 tons per hour:} & \quad E = 55.0(P)^{0.11} - 40 \end{aligned}$$

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

This rule applies only to the coating zone of each of the moulding lines, that is, ID Nos. ES-M1B, -M2B and -M3B only.

PM emissions are expected to originate from the combustion of natural gas or overspray from the coating operation. The coating operation is not exhausted directly to the atmosphere. Coating operations emissions are expected to reach the atmosphere via the drying oven exhaust if at all. Given the relative weight of the coating to the process rate (i.e., the weight of the moulding to be coated), a large margin of compliance is expected with this rule. No controls for PM are used or necessary. Consistent with current DAQ policy, the Permittee shall maintain production records such that the process rates "P" in tons per hour, as specified by the formulas contained in 02D .0515 rule can be derived, and shall make these records available to a DAQ authorized representative upon request. Continued compliance is expected.

15A NCAC 02D .0516: SULFUR DIOXIDE EMISSIONS FROM COMBUSTION SOURCES

This regulation applies to any combustion source that emits sulfur dioxide formed by the combustion of sulfur in fuels, wastes, ores, and other substances. Emissions of sulfur dioxide from these sources 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.

SO₂ emissions originate from the firing of natural gas in this direct-fired drying oven. No sulfur is expected in the coatings. The SO₂ emissions from firing natural gas (which has inherently low sulfur) in this source are expected to be well below the allowable limit. Consistent with current DAQ policy, no testing, monitoring, recordkeeping, and reporting is required to demonstrate compliance with this standard. Continued compliance is expected.

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

This regulation applies to fuel burning operations and industrial processes where visible emissions can be expected to occur. This rule applies to the moulding zones, coating zones and storage silo.

As these sources were "manufactured" after July 1, 1971, the visible emissions from these sources shall not be more than 20 percent opacity when averaged over a six-minute period except for the following exceptions:

Six-minute averaging periods may exceed 20 percent opacity if:

- (1) no six-minute period exceeds 87 percent opacity;
- (2) no more than one six-minute period exceeds 20 percent opacity in any hour; and
- (3) no more than four six-minute periods exceed 20 percent opacity in any 24-hour period.

The current permit contain monitoring requirements that consist of weekly observations of the emission points of this source for any visible emissions above normal. If visible emissions from this source is observed to be above normal, the Permittee shall either:

- i. Take appropriate action to correct the above-normal emissions as soon as practicable and within the monitoring period and record the action taken as provided in the recordkeeping requirements, or
- ii. Demonstrate that the percent opacity from the emission points of the emission source in accordance with 15A NCAC 02D .2610 (Method 9) for 12 minutes is below the applicable opacity limit.

Recordkeeping for the results of the monitoring requirements and a semiannual summary report of the monitoring and recordkeeping requirements is also required.

Continued compliance is expected.

15A NCAC 02D .1111: MAXIMUM ACHIEVABLE CONTROL TECHNOLOGY (40 CFR 63, Subpart DDDD, National Emission Standards for Hazardous Air Pollutants: Plywood and Composite Wood Products)

Both zones of each moulding line and the storage silo are affected sources under the MACT pursuant to 63.2232(b). The moulding zones and storage silo however have no applicable requirements. The coating zones are considered to be a "miscellaneous coating operation" as defined at 63.2292, as it applies a titanium dioxide coating. The coating operation does not meet the definition of a "Group 1 Miscellaneous Coating Operations" as defined at 63.2292. Thus, both zones of the moulding lines or the storage silo have no compliance requirements, operating requirements or work practice standards. Any notification requirements have been met by the submittal of the initial permit applications.

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15A NCAC 02D .1806: CONTROL AND PROHIBITION OF ODOROUS EMISSIONS

The requirements of this regulation will be discussed in the facility-wide regulatory consideration section of this review document.

STARTUP NOTIFICATION

Under the provisions of NCGS 143-215.108, the Permittee shall notify the Regional Office in writing of the date of beginning operation of the MDF moulding Line (**ID Nos. ES-M1A, -M1B, -M2A, -M2B, -M3A, -M3B and -MSS1**) postmarked no later than 30 days after such date.

MDF moulding line 1 was permitted in permit revision no. T53 on June 16, 2020. Startup notification was provided to DAQ on July 23, 2021, based on the 2022 inspection report.

MDF moulding line 2 and 3 and the shavings silo were permitted in permit revision no. T55 on June 09, 2021. Startup notification for line 2 and shavings silo was provided to DAQ on July 23, 2021. Startup notification for line 3 was provided to DAQ on April 3, 2023.

The startup notifications have been satisfied and will be removed from the revised permit.

I. One Diesel Fuel-fired Emergency Generator (1592 brake Horsepower output) (ID No. ES-21)

This emergency generator was added to permit no. T37 issued May 20, 2011. It is a 1997 model year unit that was relocated from another facility.

15A NCAC 02D .0516: SULFUR DIOXIDE EMISSIONS FROM COMBUSTION SOURCES

This regulation applies to any combustion source that emits sulfur dioxide formed by the combustion of sulfur in fuels, wastes, ores, and other substances. Emissions of sulfur dioxide from these sources 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.

Using the AP-42 emission factor of 1.01 times the percent sulfur content of the fuel (Section 3.4, "Large Stationary Diesel and All Stationary Dual-fuel Engines," Table 3.4 -1 for diesel fuel-fired engines), the combustion of diesel fuel found is not expected to exceed this limitation unless the diesel fuel has a sulfur content of approximately 2.3%. Fuel with a sulfur content this high is not commercially available in North Carolina. Given the expected margin of compliance, and consistent with current DAQ policy, no monitoring, recordkeeping and reporting is required.

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

This regulation applies to fuel burning operations and industrial processes where visible emissions can be reasonably expected to occur. As these boilers were manufactured after July 1, 1971, the visible emissions from these sources shall not be more than 20 percent opacity when averaged over a six-minute period except for the following exceptions:

Six-minute averaging periods may exceed 20 percent opacity if:

- (1) no six-minute period exceeds 87 percent opacity;
- (2) no more than one six-minute period exceeds 20 percent opacity in any hour; and
- (3) no more than four six-minute periods exceed 20 percent opacity in any 24-hour period.

Visible emissions from diesel fuel-fired engines are typically low. Consistent with current DAQ policy, no monitoring recordkeeping or reporting is required for the visible emissions from the combustion of diesel fuel in internal combustion engines.

15A NCAC 2D .0524: NEW SOURCE PERFORMANCE STANDARDS

(40 CFR 60 SUBPART III—Standards of Performance for Stationary Compression Ignition Internal Combustion Engines)

The relevant sections of the NSPS state the following:

§ 60.4200 Am I subject to this subpart?

The provisions of this subpart are applicable to manufacturers, owners, and operators of stationary compression ignition (CI) internal combustion engines (ICE) as specified in paragraphs (a)(1) through (3) of this section. For the purposes of this subpart, the date that construction commences is the date the engine is ordered by the owner or operator.

60.4200(a)(1)

Manufacturers of stationary CI ICE with a displacement of less than 30 liters per cylinder where the model year is:

60.4200(a)(1)(i)

2007 or later, for engines that are not fire pump engines,

60.4200(a)(2)

Owners and operators of stationary CI ICE that commence construction after July 11, 2005 where the stationary CI ICE are:

60.4200(a)(2)(i)

Manufactured after April 1, 2006 and are not fire pump engines, or

60.4200(a)(3)

Owners and operators of stationary CI ICE that modify or reconstruct their stationary CI ICE after July 11, 2005.

60.4200(a)(4)

The provisions of §60.4208 of this subpart are applicable to all owners and operators of stationary CI ICE that commence construction after July 11, 2005.

As stated above this emergency engine is a 1997 model year that was relocated from another facility in 2011. The situation here is identified in 60.4200(a)(2)(i), where the “construction” of the engine was after July 11, 2005, however the engine was manufactured prior to April 1, 2006. Thus, the only applicable requirement, pursuant to 60.4200(a)(4) is 60.4208 which states:

§60.4208 What is the deadline for importing or installing stationary CI ICE produced in previous model years?

(i) The requirements of this section do not apply to owners or operators of stationary CI ICE that have been modified, reconstructed, and do not apply to engines that were removed from one existing location and reinstalled at a new location.

In conclusion, NSPS IIII does not apply to this engine.

15A NCAC 2D .1111: MAXIMUM ACHIEVABLE CONTROL TECHNOLOGY

(40 CFR 63 SUBPART ZZZZ—National Emissions Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines)

Arauco is a major source of HAP emissions. The relevant sections of MACT ZZZZ state the following:

63.6590 What parts of my plant does this subpart cover?

This subpart applies to each affected source.

63.6590(a) Affected source.

An affected source is any existing, new, or reconstructed stationary RICE located at a major or area source of HAP emissions, excluding stationary RICE being tested at a stationary RICE test cell/stand.

63.6590(a)(1) Existing stationary RICE.

63.6590(a)(1)(i)

For stationary RICE with a site rating of more than 500 brake horsepower (HP) located at a major source of HAP emissions, a stationary RICE is existing if you commenced construction or reconstruction of the stationary RICE before December 19, 2002.

63.6590(a)(1)(iv)

A change in ownership of existing stationary RICE does not make that stationary RICE a new or reconstructed stationary RICE.

Hence under the MACT, this emergency engine is an existing engine. Further, the rule states:

63.6590(b) Stationary RICE subject to limited requirements.

63.6590(b)(3)

The following stationary RICE do not have to meet the requirements of this subpart and of subpart A of this part, including initial notification requirements:

63.6590(b)(3)(iii)

Existing emergency stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions;

Hence although the RICE is an affected source pursuant to 63.6590(b)(3) this unit is not subject to the requirements of 40 CFR 63 Subpart ZZZZ or Subpart A. The existing permit contains a condition memorializing that the generator is an affected source under MACT ZZZZ but has no applicable requirements.

15A NCAC 02D. 0530: PREVENTION OF SIGNIFICANT DETERIORATION

The requirements of this regulation will be discussed in the facility-wide regulatory consideration section of this review document.

15A NCAC 02D .1806: CONTROL AND PROHIBITION OF ODOROUS EMISSIONS

The requirements of this regulation will be discussed in the facility-wide regulatory consideration section of this review document.

VII. Facility-wide Regulatory Considerations

15A NCAC 02D. 0530: PREVENTION OF SIGNIFICANT DETERIORATION

The New Source Review (NSR) program is implemented based on a site's attainment status. The Prevention of Significant Deterioration (PSD) program for attainment or unclassifiable areas is codified under 40 CFR 51.166. North Carolina has incorporated this program into the North Carolina State Implementation Plan (SIP), with amendments, under 15A NCAC 02D .0530. Alternatively, the Nonattainment New Source Review (NNSR) program for nonattainment areas is codified under 40 CFR 51.165 and has been incorporated into the North Carolina SIP under 15A NCAC 02D .0531.

The Moncure mill is located in Chatham County, which is designated as "attainment" or "unclassifiable" for all criteria pollutants. Therefore, 15A NCAC 02D .0531 does not apply. The PSD permitting program only regulates emissions from "major stationary sources" of regulated NSR pollutants. A stationary source is considered "major" under the PSD program if the facility:

- Belongs to one of the 28 named source categories in 40 CFR 51.166(b)(1)(i)(a) and has a PTE of 100 tpy of any pollutant subject to regulation; or
- Has a PTE of 250 tpy of any pollutant subject to regulations, regardless of its source category.

The Moncure mill is a wood products manufacturing facility. Wood products manufacturing is not one of the 28 named source categories. Therefore, PSD major source applicability is triggered when the PTE of a regulated NSR pollutant exceeds 250 tpy. As indicated in the facility's Title V permit, the facility is a PSD major source.

There are 2 PSD conditions in the permit:

Section 2.1 E.3 - This condition addresses the remaining equipment at the old PB mill and is discussed in Section VI.E above. Continued compliance is expected.

Section 2.2.B.1 – This condition addresses VOC emissions from most sources at the MDF mill and contains BACT limits, testing, monitoring, recordkeeping and reporting requirements. This condition was originally established in permit revision no. T47 and has been modified since then (see section III) above.

The primary MDF production equipment (energy system, dryers, press) is controlled by the biofilter. The biofilter was most recently tested on July 27, 2023. The results were approved by the stationary Source Compliance Branch via memo dated October 19, 2023, and were as follows:

Target	Test Result	Emission Limit	Regulation	Compliance
THC (as propane)	161.0 lb/hr	---	---	---
Formaldehyde	2.63 lb/hr ¹	---	---	---
	92.0 % DRE	90 %	63 Subpart DDDD	Yes
Methane	22.94 lb/hr	---	---	---
Methanol	35.85 lb/hr	---	---	---
WPPI VOC	167.8 lb/hr	---	---	---
	5.83 lb/ODMT	7.83 lb/ODMT	2D .0530	Yes

¹ Formaldehyde inlet was 32.76 lb/hr

No changes are necessary to the existing permit condition. Continued compliance is expected.

15A NCAC 02Q. 0317: AVOIDANCE CONDITIONS for 15A NCAC 02D. 0530: PREVENTION OF SIGNIFICANT DETERIORATION

The permit contains two PSD avoidance conditions at Sections 2.1 B.2 and 2.1 B.3.

Section 2.1 B.2 – PM10/2.5

This condition has the following limitations:

- PM-2.5 emissions shall not exceed 111.9 tons per consecutive 12-month period.
- PM-10 emissions shall not exceed 116.9 tons per consecutive 12-month period.

It covers the following sources with the approved emission factors as shown in the table below.

Emission Point	Description*	PM-10		PM-2.5	
		EF	Units	EF	Units
EP-01	Refiner Abort Cyclone	3.52	lb/hr	3.52	lb/hr
EP-03	Fiber Sifter System Filter	0.58	lb/hr	0.58	lb/hr
EP-04	Forming Line Clean-Up Filter	0.55	lb/hr	0.55	lb/hr
EP-05	Mat reject system Filter	0.48	lb/hr	0.48	lb/hr
EP-07	Saw System Filter	0.84	lb/hr	0.84	lb/hr
EP-08	Sander System No. 1 Exhaust Filter	0.90	lb/hr	0.9	lb/hr
EP-09	Recycled Fiber Silo No. 1 Filter	0.02	lb/hr	0.02	lb/hr
EP-10	Sander System No.2 Exhaust Filter	0.45	lb/hr	0.45	lb/hr
EP-12	Sander Dust Silo No. 1 Filter	0.02	lb/hr	0.02	lb/hr
EP-13	Dry Sawdust Silo Filter	0.02	lb/hr	0.02	lb/hr
EP-15	Recycled Fiber Silo No. 2 Filter	0.02	lb/hr	0.02	lb/hr
EP-17	Sander Dust Silo No. 2 Filter	0.02	lb/hr	0.02	lb/hr
ES-18/19/20	Three natural gas-fired hot oil heaters	7.45E-03	lb/MMBtu	7.45E-03	lb/MMBtu
ES-02-A	Energy System Abort (50/50 dry/wet fuel)	0.5	lb/MMBtu	0.43	lb/MMBtu
ES-02-A	Energy System Abort (dry fuel)	0.36	lb/MMBtu	0.31	lb/MMBtu
EP-18	Press Biofilter	0.088	lb/MSF	0.088	lb/MSF
EP-18	Energy System and Dryer Biofilter (SW)**	0.51	lb/ODMT	0.51	lb/ODMT
EP-18	Energy System and Dryer Biofilter (SW/HW)**	0.51	lb/ODMT	0.51	lb/ODMT
EP-16	Press Biofilter (CDMDT)	0.088	lb/MSF	0.088	lb/MSF
EP-02/14	Energy System and Dryer Biofilter (SW)(CDMDT)**	0.51	lb/ODMT	0.51	lb/ODMT
EP-02/14	Energy System and Dryer Biofilter (SW/HW)(CDMDT)**	0.51	lb/ODMT	0.51	lb/ODMT

Avoidance for PM10 was originally established in permit revision no. 32 issued September 13, 2007. PM2.5 was added to permit revision no. T35 issued October 15, 2009. The current values were established in permit revision no. T43 issued January 22, 2014. The condition was established in permit revision T32 to avoid triggering PSD when the MDF plant as it is configured (for the most part) today. It originally had limits for VOC and NOx. NOx now has its own condition (see discussion below) and VOC has now been triggered into the PSD program. See discussion elsewhere.

The Permittee is required to keep typical monthly and rolling 12-month records of emissions as well as the process rates used in conjunction with the emission factors included in the permit used to calculate the emissions.

No changes are necessary to the existing condition. Continued compliance is expected.

Section 2.1 B.3 - NOx

This condition has a limitation of 308 tpy of NOx for the following sources:

Emission Point	Emission Source Description*	NOx Emission Factor (lb/MMBtu)	Minimum Urea/Water Injection Rate (gpm)
MDF sources with no urea/water injection (uncontrolled)			
ES-02-A	Energy System consisting of one dry/wet wood/ woodwaste-fired burner (205 million Btu per hour heat input)	0.61	NA
ES-02-B and ES-02-C-1 and ES-02-C-2, ES-02-D	Two Stage Dryer System and Three backup natural gas-fired dryer burners (35, 35, and 17 million Btu per hour heat input respectively)		
MDF sources with urea/water injection (controlled)			
ES-02-A	Energy System consisting of one dry/wet wood/ woodwaste-fired burner (205 million Btu per hour heat input)	0.27	0.38
ES-02-B and ES-02-C-1 and ES-02-C-2, ES-02-D	Two Stage Dryer System and Three backup natural gas-fired dryer burners (35, 35, and 17 million Btu per hour heat input respectively)		

This NOx limit was increased from 117.8 tpy to 308 tpy using a contemporaneous netting analysis consistent with the PSD rules in permit revision no. T54 issued on March 25, 2021, when the PB was shut down. The Permittee may use the urea/water injection system on demand to meet the NOx limit. The permit contains the following testing requirement:

Pursuant to NCGS 143-215.108, the Permittee shall test the sources controlled by the biofilter (**ID No CD18**) to confirm or re-establish emission factors and monitoring parameter(s) to be used for purposes of Section 2.2 B.3.c below. Testing shall be completed within 180 days after the start-up of the biofilter (**ID No. CD18**) after issuance of Permit No. T54. Testing shall be conducted in scenarios that represent worst-case NOx emissions.

This requirement was met on October 20 and 21, 2021 and was used to revise the emissions factor in the table above. This initial testing requirement will be removed from the revised permit.

The Permittee is required to track operation of the urea/water injection system and use the appropriate NOx emission factors accordingly. Typical recordkeeping and reporting requirements are also required. Testing every 5 years is required to confirm or reestablish the emission factors and monitoring parameters.

Continued compliance is expected.

15A NCAC 02D .0614: COMPLIANCE ASSURANCE MONITORING

02D .0614 implements the federal rule “Compliance Assurance Monitoring” (CAM) at 40 CFR Part 64. The CAM rule requires owners and operators at a facility with a Title V permit to conduct monitoring to provide a reasonable assurance of compliance with applicable requirements. Monitoring focuses on emissions units that rely on pollution control device equipment to achieve compliance with applicable standards. Applicability is addressed at 02D .0614(a), which states:

- (a) General Applicability. Except as set forth in Paragraph (b) of this Rule, the requirements of this Paragraph shall apply to a pollutant-specific emissions unit at a facility required to obtain a permit pursuant to 15A NCAC 02Q .0500 if the unit:
 - (1) is subject to an emission limitation or standard for the applicable regulated air pollutant, or a surrogate thereof, other than an emission limitation or standard that is exempt pursuant to Subparagraph (b)(1) of this Rule;
 - (2) uses a control device to achieve compliance with any such emission limitation or standard; and
 - (3) 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. For purposes of this Subparagraph, "potential pre-control device emissions" means the same as "potential to emit" as defined in 15A NCAC 02Q .0103, except that emission reductions achieved by the applicable control device shall not be taken into account.

Note that a pollutant-specific emissions unit (PSEU) is defined in at 40 CFR 64.1 as an emissions unit considered separately with respect to each regulated air pollutant. Also note that TAPs regulated solely under 15A NCAC 02D .1100 are not considered regulated air pollutants as defined at 40 CFR 64.1 and hence not subject to CAM.

Applicability will be addressed for all on-site sources below. Note that once one of the three criteria identified in 02D .0614(a) is determined to not apply, no further discussion is necessary. Each source, or similar groups of sources using control devices, will be discussed separately.

Sources in Section 2.1 A- material handling sources

Section 2.1 D. Three natural gas-fired hot oil heaters (ID Nos ES-18, ES-19, and ES-20)

Section 2.1 G. Natural gas-fired hot oil heater (ID No. Pr-Heat1)

Section 2.1 I. One Diesel Fuel-fired Emergency Generator (ID No. ES-21)

All of these sources are uncontrolled. Since these sources do not meet the criteria of 02D .0614(a)(2) CAM does not apply to these sources.

Section 2.1 B material handling sources

Section 2.1 E. Sawdust Rock and Metal Separator (ID No. 3501) controlled by a cyclone (ID No. CD-SC) in series with a bagfilter (ID No. CD-3501)

All of these sources are use filters to control PM emissions to comply with the emission standard 02D .0512. However, during the previous renewal (permit revision no. T45) Arauco provided written justification that these filtration systems should be considered as inherent process equipment and the DAQ concurred. The Permittee has provided emission estimates in the application that the PTE of each of these sources is less than 100 tpy of PM. Since these sources do not meet the criteria of 02D .0614(a)(3) CAM does not apply to these sources.

Sources in Section 2.1 C

Arauco has previously evaluated CAM applicability for these sources at the facility. Based on the previous evaluation, the sources routed to the venturi scrubbers (CD02 and CD14) are subject to CAM requirements for PM, and the sources routed to the biofilter (CD-18) are subject to CAM requirements for VOC. The current CAM requirements for these units are included in Condition 2.1 C.4 and 2.1 C.5 of the current Title V permit. No changes are necessary for these permit conditions.

Section 2.1 F. Two Short Cycle Laminating Presses (ID Nos. 3593 and 3594) controlled by one bagfilter (ID No. CD-3593)

These sources use filters to control PM emissions to comply with the emission standard 02D .0515. However, the PTE of these sources not considering control is less than 100 tpy of PM. Since these sources do not meet the criteria of 02D .0614(a)(3) CAM does not apply to these sources.

Section 2.1 H – MDF moulding line coating and drying zones

All of these sources are uncontrolled. Since these sources do not meet the criteria of 02D .0614(a)(2) CAM does not apply to these sources.

Section 2.1 H – MDF moulding lines moulding zones and shavings silo

These sources use filters to control PM emissions to comply with the emission standard 02D .0512.

A review of the PTE before control for the shaving silo has a PTE before control of less than 100 tpy. Since this source does not meet the criteria of 02D .0614(a)(3), CAM does not apply to this source.

A review of the PTE before control for each of the moulding zones shows that each has a PTE before control of greater than 100 tpy. Thus, CAM applies to these sources.

Each source is routed to the two parallel bagfilters to comply with 02D .0512. See discussion in Section VI.H above. Consistent with current DAQ permitting policy, the monitoring approach will be as follows:

Monitoring Elements	Indicator
Measurement Approach [64.6(c)(1)(i), (ii)]	Visible emissions from the bagfilter outlets will be monitored <u>daily</u> using a reference method 22-like procedures.
Indicator Range [64.6(c)(2)]	An excursion is defined as the presence of visible emissions. Excursions trigger an inspection and corrective action.
QIP threshold [64.8]	The Permittee shall develop a QIP if the threshold of six excursions in a six-month reporting period is exceeded.
Data Representativeness [64.6(c)(1)(iii), 64.3(b)(1)]	Observations are being made at the emission points (bagfilter outlets).
QA/QC Practices and Criteria [64.3(b)(3)]	The observer will be familiar with Method 22 and the follow Method 22-like procedures.
Monitoring frequency [64.3(b)(4)]	One Method 22-like observation shall be performed daily.
Data collection procedure [64.3(b)(4)]	The results of the monitoring action will be recorded, including the date and time.

Typical recordkeeping and reporting will be required. Compliance with these requirements is expected.

State enforceable only

15A NCAC 02Q .0700: TOXIC AIR POLLUTANT PROCEDURES

15A NCAC 02D .1100: CONTROL OF TOXIC AIR POLLUTANTS

The regulations at 15A NCAC 02Q .0700 require, with some exceptions, a permit to emit any toxic air pollutant (TAP) at levels greater than the TAP permitted emission rate (TPER) specified in 15A NCAC 02Q .0711. These regulations include the procedural rules used to comply with the TAP control requirements found at 15A NCAC 02D .1100. 15A NCAC 02D .1104 contains Acceptable Ambient Levels (AALs) for each TAP. Generally, a facility must conduct a dispersion modeling analysis to demonstrate that each TAP emitted above its respective TPER will not result in the respective AAL being exceeded beyond the facility's premises. Collectively, these "toxics" rules are state-enforceable only and are not subject to the TV requirements found at 15A NCAC 02Q .0500.

Most if not all sources of TAP emissions at Arauco are subject to a MACT standard and therefore meet the toxics permitting exemption at 15A NCAC 02Q .0702(a)(27). However, pursuant to 15A NCAC 02Q .0706 all

modifications require a review pursuant to G.S. 143-215.107(a)(5)b for an “unacceptable risk to human health.” In simple terms, if the inclusion of such a source in a modeling demonstration from which it was excluded would reasonably be expected to contribute to an AAL exceedance, the source would at first pass be considered to pose an “unacceptable risk to human health” and therefore require further analysis, potentially requiring the source to be included in a revised modeling demonstration. These evaluations have been documented in all previous reviews and to date the modifications and the facility in general did not pose an “unacceptable risk to human health.” As such, the facility is not subject to any requirements under 02D .1100.

State Enforceable Only

15A NCAC 02D .1806: CONTROL AND PROHIBITION OF ODOROUS EMISSIONS

This rule requires that the Permittee shall not operate the facility without implementing management practices or installing and operating odor control equipment sufficient to prevent odorous emissions from the facility from causing or contributing to objectionable odors beyond the facility's boundary.

To date odors have not been an issue at the facility. Continued compliance is expected.

15A NCAC 02D .1111: MAXIMUM ACHIEVABLE CONTROL TECHNOLOGY (40 CFR 63, Subpart DDDD, National Emission Standards for Hazardous Air Pollutants: Plywood and Composite Wood Products)

40 CFR 63.2232 describes the affected sources under this rule. Arauco is considered an existing facility under this rule. Most of the affected sources at the facility have no applicable requirements as noted in the discussions in Section VI above. The MACT DDDD requirements are contained at Section 2.2 A.1 of the permit. Operations at the facility with ongoing compliance requirements are included in the permit condition as shown in the following table:

Table 2.2 A.1

Emission Source ID No.	Emission Source Description
ES-01	Refiner
ES-02-A	Energy System consisting of a dry/wet wood/woodwaste-fired burner (205 million Btu per hour heat input)
ES-02-B	Two Stage Dryer System
ES-02-C and ES-02-D	Two backup natural gas-fired dryer burners (78.5 and 17 million Btu per hour heat input respectively)
ES-16	MDF Press and Press Hall

On August 13, 2020, the EPA published final rule revisions to the PCWP MACT as part of the required residual risk and technology review (RTR) under the Clean Air Act (CM). With the revised rule, the EPA included amendments to the provisions addressing periods of startup, shutdown, and malfunction (SSM); added provisions regarding electronic reporting; modified emissions testing requirements; and made technical and editorial changes. The permit was revised to include and address these changes in permit revision no. T58 issued September 29, 2023.

Emission limitations

The HAP emissions from the sources in Table 2.2 A.1 above shall be controlled to meet one of the following compliance options: [40 CFR 63.2240(b), Table 1B]

- i. Reduce emissions of total HAP, measured as THC (as carbon) ^a, by 90 percent; or
- ii. Limit emissions of total HAP, measured as THC (as carbon) ^a, to 20 ppmvd; or
- iii. Reduce methanol emissions by 90 percent; or
- iv. Limit methanol emissions to less than or equal to 1 ppmvd if uncontrolled methanol emissions entering the control device are greater than or equal to 10 ppmvd; or
- v. Reduce formaldehyde emissions by 90 percent; or

- vi. Limit formaldehyde emissions to less than or equal to 1 ppmvd if uncontrolled formaldehyde emissions entering the control device are greater than or equal to 10 ppmvd. [40 CFR 63.2240(b), Table 1B to 40 CFR 63 Subpart DDDD]

The Permittee has chosen to meet one of these emission limits by routing the emissions through a biofilter. The Permittee demonstrates continuous compliance by testing every two years and monitoring the biofilter and keeping the bed temperature in a range established by the performance testing. The biofilter was most recently tested on July 27, 2023. The results were approved by the Stationary Source Compliance Branch via memo dated October 19, 2023, and were as follows:

Target	Test Result	Emission Limit	Regulation	Compliance
THC (as propane)	161.0 lb/hr	---	---	---
Formaldehyde	2.63 lb/hr ¹	---	---	---
	92.0 % DRE	90 %	63 Subpart DDDD	Yes
Methane	22.94 lb/hr	---	---	---
Methanol	35.85 lb/hr	---	---	---
WPPI VOC	167.8 lb/hr	---	---	---
	5.83 lb/ODMT	7.83 lb/ODMT	2D .0530	Yes

¹ Formaldehyde inlet was 32.76 lb/hr

No changes are necessary to the existing permit condition. Continued compliance is expected.

VIII. NSPS, NESHAPS, PSD, Attainment Status, 112(r), CAM and Toxics

NSPS

The following insignificant activities are subject to is subject to 40 CFR 60 SUBPART IIII—Standards of Performance for Stationary Compression Ignition Internal Combustion Engines.

- fire pump engine (ID No. I-DFP-1)
- emergency generator (ID No. I-ODG)

The following sources are subject to 15A NCAC 02D .0524 "New Source Performance Standards" as promulgated in 40 CFR Part 60 Subpart Dc, "Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units" including Subpart A "General Provisions." See discussion in Section VI above.

- three natural gas-fired hot oil heaters (ID Nos ES-18, ES-19, and ES-20)

NESHAPS/MACT

Arauco is considered a major source of HAP and is subject to the following regulations.

The following engines are subject to is subject to 40 CFR 63 SUBPART ZZZZ National Emissions Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines)

- emergency generator (ID No. ES-21) See discussion in Section VI above.
- fire pump engine (ID No. I-DFP-1)
- emergency generator (ID No. I-ODG)

Many of the emissions sources at Arauco are subject to 40 CFR 63, Subpart DDDD "National Emission Standards for Hazardous Air Pollutants: Plywood and Composite Wood Products." See discussions in Section VI and VII above.

The following engines are subject to is subject to 40 CFR 63 Subpart DDDDD "National Emission Standards for Hazardous Air Pollutants for Major Sources: Industrial, Commercial, and Institutional Boilers and Process Heaters."

- three natural gas-fired hot oil heaters (ID Nos ES-18, ES-19, and ES-20)
- one natural gas-fired hot oil heater used with the short cycle laminating presses (ID No. Pr-Heat1)

See discussions in Section VI above.

PSD/Attainment Status

The facility is located in Chatham County. Chatham County is considered in attainment for all pollutants and is not a maintenance area for the 1997 8-hour NAAQS for ozone. The facility is a PSD major source. See discussions in Sections VI and VII above.

Chatham County has triggered the PSD Minor Source Baseline dates for PM10, SO2 and NOx. This renewal will not result in an increase in any of these three pollutants.

112r - Risk Management Program (RMP) (15A NCAC 2D .2100)

The Permittee is not subject to Section 112(r) of the Clean Air Act requirements because it does handle any of the regulated substances in quantities above the thresholds in 40 CFR 68.130.

CAM

See discussion in Facility-wide Regulatory Considerations in Section VII above.

Toxics

See discussion in Facility-wide Regulatory Considerations in Section VII above.

IX. Compliance History

The following excerpts are from the compliance inspection report for the inspection conducted March 28, 2023.

Five Year Violation History:			
<u>Date</u>	<u>Letter Type</u>	<u>Rule Violated</u>	<u>Violation Resolution Date</u>
11/09/2020	NOV	2D .0530 Prevention of Significant Deterioration	11/14/2020
06/05/2019	NOV/NRE	Part 63 - NESHAP/MACT Subpart DDDD Plywood and Composite Wood Products	07/01/2019
06/05/2019	NOV/NRE	2D .0530 Prevention of Significant Deterioration	07/01/2019
06/05/2019	NOV/NRE	Permit Permit Condition	07/01/2019

(XI) CONCLUSIONS/RECOMMENDATIONS: Based on observations made during the inspection, the facility appears to be in compliance. It is recommended that an annual inspection be performed within the next 12 months.

X. Changes Implemented in Revised Permit

Page No.	Section	Description of Changes
NA	Cover Letter	<ul style="list-style-type: none"> Updated permit revision numbers, issue and effective dates, etc.
4	Section 1	<ul style="list-style-type: none"> Removed minor modification footnotes for the following modifications: <ul style="list-style-type: none"> 1900015.20A 1900015.21B 1900015.22A <p>The three minor modifications addressed in these footnotes will now be subjected to public notice and EPA review procedures and hence will be covered under the permit shield pursuant to 15A NCAC 02Q .0512(a). See permit review.</p> For the hot oil heater (ID No. Pr-Heat1), reference to No. 2 fuel oil as a fuel was removed. The permittee had requested this change in the permit renewal application no. 1900015.08D (permit no. T45)

Page No.	Section	Description of Changes
NA	Global	<ul style="list-style-type: none"> Revised all conditions as necessary to meet current DAQ permitting “shell” standards. No changes in intent were made unless noted below.
7	2.1 A.1	<ul style="list-style-type: none"> 02D .0521 condition Added monitoring, recordkeeping, and reporting requirements consistent with similar fugitive emission sources.
12	2.1 C.1	<ul style="list-style-type: none"> 02D .0515 condition Revised paragraph c to read as follows: Under the provisions of NCGS 143-215.108, the Permittee shall demonstrate compliance with the emission limit above on an annual basis by testing the emission point EP18 in accordance with General Condition JJ. <u>Each test shall be conducted within 13 months of the previous test.</u> If the results of this test are less than 80 percent of the emission limit in section 2.1 C.1.a above, the Permittee shall be required to stack test <u>within 61 months of the previous stack test.</u> Added the following language to the monitoring requirements at current paragraph c. <ul style="list-style-type: none"> iv. Compliance with the parameters in Section Table 2.1 C.1.d below is not required during performance testing. Parameters shall be confirmed or reestablished during performance testing. v. If the Permittee conducts testing that results in monitoring parameter(s) that: <ul style="list-style-type: none"> (A) are more stringent than those in Table 2.1 C.1.d below, the Permittee shall submit a request to revise the value(s) at the same time a test report required pursuant to General Condition JJ is submitted. The permit revision will be processed pursuant to 15A NCAC 02Q .0514. (B) are less stringent than those in Table 2.1 C.1.d below, the Permittee may request to revise the value(s) in the permit pursuant to 15A NCAC 02Q .0515. Simple renumbering
13	2.1 C.2	<ul style="list-style-type: none"> 02D .0516 condition Simple renumbering from 2.1 C.3 to 2.1 C.2; no substantial changes
13	2.1 C.3	<ul style="list-style-type: none"> 02D .0521 condition The following language has been removed as it has been satisfied: The Permittee shall re-establish “normal” for the sources in Table 2.1 C above within 30 days after the after the start-up of the board cooler (ID No. ES-06-B) after the modifications undertaken in application no. 1900015.22B are completed. Simple renumbering from 2.1 C.2 to 2.1 C.3
18	2.1 D.1	<ul style="list-style-type: none"> 02D .0503 condition Corrected limit from 0.25 to 0.33 lb/MMBtu
19	2.1 D.4	<ul style="list-style-type: none"> 02D .0524 condition The startup notification requirements at paragraph c were removed as they have been met.
19	2.1 D.5	<ul style="list-style-type: none"> Revised condition to current shell standards. Only corrections needed are to the reporting requirement. The reporting requirement at Section 2.1 D.5.i now reads: The Permittee shall submit compliance reports to the DAQ on a five-year basis. The first report shall cover the period beginning on <u>start-up and ending on the earliest December 31st less than five years from startup.</u> Subsequent five-year reports shall cover the periods from January 1 to December 31. The Permittee shall submit the compliance reports postmarked on or before January 30 for the previous compliance period. [40 CFR 63.7550(a) and (b)]

Page No.	Section	Description of Changes
22	Section 2.1 E	<ul style="list-style-type: none"> Removed existing RESERVED conditions at 2.1 E.1,3,4,7, and 8 In applicable regulations table, removed reference to CAM (02D .0614). All CAM affected equipment formerly in this section was removed from permit revision no. T54. In applicable regulations table, added reference to MACT DDDDD. These are affected sources under the rule with no applicable requirements.
22	2.1 E.1	<ul style="list-style-type: none"> 02D .0512 condition Former Section 2.1 E.2 – simple renumbering
22	2.1 E.2	<ul style="list-style-type: none"> 02D .0521 condition Former Section 2.1 E.5 – simple renumbering
23	2.1 E.3	<ul style="list-style-type: none"> 02D .0530 condition Former Section 2.1 E.6 – simple renumbering The monitoring, recordkeeping and reporting requirements were substantially simplified by streamlining the requirements to those found in the 02D .0512 and 02D .0521 conditions. No changes in intent were made.
25	2.1 F	<ul style="list-style-type: none"> This section formerly addressed the laminating presses AND the associated heater. For simplification purposes, the associated heater is now addressed in Section 2.1 G No changes in intent were made
27	2.1 G	<ul style="list-style-type: none"> Section addresses the hot oil heater used with the short cycle laminating presses No changes in intent were made. For the hot oil heater (ID No. Pr-Heat1), reference to no. 2 fuel oil as a fuel was removed. The permittee had requested this change in the permit renewal application no. 1900015.08D (permit no. T45)
28	2.1 G.4	<ul style="list-style-type: none"> MACT DDDDD condition Memorialized compliance milestones Corrected the reporting requirement to read as follows: The Permittee shall submit compliance reports to the DAQ on a 5-year basis. The first report shall cover the period <u>beginning on May 20, 2019 and ending on December 31, 2023</u>. Subsequent 5-year reports shall cover the periods from January 1 to December 31. The Permittee shall submit the compliance reports postmarked on or before January 30 for the preceding reporting period. [40 CFR 63.7550(a), (b)]
30	2.1 H	<ul style="list-style-type: none"> Former Section 2.1 G -; simple renumbering Addresses the three moulding lines The startup notifications at the existing Section 2.1 G.5 have been satisfied and were removed from the revised permit. Added CAM requirements at Section 2.1 H.5 for the moulding zones and silo (ID Nos. ES-M1A, -M2A, -M3A and ES-MSS1)
35	2.1 I	<ul style="list-style-type: none"> This section addresses the emergency generator (ID No. ES-21) In the applicable regulations table, removed reference to the PSD avoidance condition found at Section 2.2 A.1. This engine is not subject to this condition. The table was inadvertently updated during permit revision no. T47 to include this reference. All previous permits to T47 do not reference PSD avoidance. The review for permit revision no. T47 does not include any applicability discussion of PSD avoidance. It, however, became subject to PSD BACT Limitations during permit revision no. T47, which are correctly characterized in the permit.
43	2.2 B.1	<ul style="list-style-type: none"> PSD condition for VOC Formerly 2.2 B.2 – simple renumbering

Page No.	Section	Description of Changes
44	2.2 B.2	<ul style="list-style-type: none"> • PSD avoidance condition for PM10/2.5 • Formerly 2.2 B.1 – simple renumbering
47	2.2 B.3	<ul style="list-style-type: none"> • PSD avoidance condition for NOx • the initial testing requirement has been removed as it was met in October of 2022.

XI. 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 the agreement between the DAQ and the EPA, 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 and local program at or before the time notice provided to the public under 02Q .0521 above. Current NC permitting policy is to provide notice to all local programs in NC and all contiguous states regardless of their status as an affected state under 02Q .0522.

Notice of the DRAFT Title V Permit to Affected States ran from MM DD YYYY to MM DD YYYY. TBD

Public Notice of the DRAFT Title V Permit ran from MM DD YYYY, to MM DD YYYY. TBD

EPA's 45-day review period ran concurrent with the 30-day Public Notice, MM DD YYYY, to MM DD YYYY. No TBD

XII. PE Seal

Pursuant to 15A NCAC 02Q .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 15A NCAC 02Q .0103 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 PE Seal was not required for this renewal application as it does not meet the criteria above.

XIII. Zoning

A zoning consistency determination per 02Q .0304(b) was **NOT** required for this renewal application as it is not a new facility or the expansion of an existing facility.

XIV. Recommendations

TBD

Attachment A

Permit Review for Permit Revision No. T53
for the Minor Modification Application No.
1900015.20A

NORTH CAROLINA DIVISION OF
AIR QUALITY

Application Review

Issue Date: June 16, 2020

Region: Raleigh Regional Office
County: Chatham
NC Facility ID: 1900015
Inspector's Name: Matthew Mahler
Date of Last Inspection: 03/28/2019
Compliance Code: 5 / Outstanding Penalty

Facility Data

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

Facility Address:

Arauco North America, Inc.
985 Corinth Road
Moncure, NC 27559

SIC: 2493 / Reconstituted Wood Products

NAICS: 321219 / Reconstituted Wood Product Manufacturing

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

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

Permit Applicability (this application only)

SIP: 02D .0512, 0515, .0521, .1111
NSPS: NA
NESHAP: MACT DDDD
PSD: NA
PSD Avoidance: NA
NC Toxics: NA
112(r): NA
Other: 02D .1806 (state only)

Contact Data

Application Data

Facility Contact

Savannah Carrol
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Moncure, NC 27559

Authorized Contact

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Plant Manager
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Technical Contact

John Bird
NA Environmental
Manager
(919) 642-6658
985 Corinth Road
Moncure, NC 27559

Application Number: 1900015.20A

Date Received: 03/11/2020

Application Type: Modification

Application Schedule: TV-Minor

Existing Permit Data

Existing Permit Number: 03449/T52

Existing Permit Issue Date: 01/02/2020

Existing Permit Expiration Date: 06/30/2021

Total Actual emissions in TONS/YEAR:

CY	SO2	NOX	VOC	CO	PM10	Total HAP	Largest HAP
2018	13.75	245.13	985.75	493.30	130.56	269.46	233.06 [Methanol (methyl alcohol)]
2017	12.64	216.83	708.04	340.86	123.16	241.97	175.06 [Formaldehyde]
2016	14.52	241.64	597.49	389.07	123.90	157.11	127.51 [Formaldehyde]
2015	12.64	296.93	793.10	518.43	182.48	82.62	40.77 [Methanol (methyl alcohol)]
2014	14.18	309.21	571.44	550.64	138.51	73.16	32.11 [Methanol (methyl alcohol)]

Review Engineer: Joseph Voelker

Review Engineer's Signature:

Date: June 16, 2020

Comments / Recommendations:

Issue 03449/T53

Permit Issue Date: 06/16/2020

Permit Expiration Date: 06/30/2021

I. Introduction and Purpose of Application

Arauco Panels USA LLC owns and operates a facility in Moncure, NC that is permitted to produce medium density fiberboard (MDF) and particle board (PB).

The purpose of this application is to construct and operate a new moulding production line at the MDF plant.

This application will be processed a minor modification pursuant to 15A NCAC 02Q .0515.

II. Chronology

Date	Description
03/11/2020	An application was received and assigned application no. 1900015.20A . It was submitted as a minor modification pursuant to 15A NCAC 02Q .0515.
03/18/2020	An email was sent stating that the application was incomplete as it did not include the appropriate permit conditions.
03/31/2020	The proposed permit conditions were received via email. Application deemed complete as of this date.
04/03/2020	The minor modification completeness letter was sent to the Permittee via email.
05/28/2020	A revised consolidate application package was received containing updated emission calculations, forms and the proposed conditions received on 03/31/2020.

III. Modification Description

As stated in the application:

With this project, Arauco is proposing to install a moulding line to the facility. The moulding line will coat and dry medium density fiberboard (MDF) manufactured at the site. The moulding line will consist of one moulding area including a rip saw, molder, and sanders (ES-M1A) and one coating area, including a spray coater and a two-burner oven (ES-M1B). An existing dust collection system (CD-2006, CD-3570, and CD-3575) will be used for abatement of the moulding area. Within the coating area, the spray coater is enclosed and the two-burner oven is vented to the atmosphere.

The current permit employs the existing dust collection systems described above as follows.

Emission Source ID No.	Emission Source Description	Control Device ID No.	Control Device Description
3545 PSD MACT DDDD	Particleboard Mill Steinemann Finishing Sander	CD-2006	Reverse flow bag filter with 6,918 square feet of surface area
		CD-3570	High efficiency cyclone - 144 inches in diameter
		CD-3575	Reverse flow bag filter with 1,159 square feet of surface area

These systems are currently installed at the PB plant. The PB plant has ceased operation. It is anticipated the Permittee will be submitting an application soon to remove the permitted operations at the PB plant.

The revised permit will show these systems employed as follows on the woodworking operations associated with the molding line.

Emission Source ID No.	Emission Source Description	Control Device ID No.	Control Device Description
MDF Mouldling Line Operations consisting of:			
ES-M1A	MDF moulding line – moulding zone consisting of rip saw, moulder and sanders	CD-2006	Reverse flow bag filter with 6,918 square feet of surface area
		CD-3570	High efficiency cyclone - 144 inches in diameter
		CD-3575	Reverse flow bag filter with 1,159 square feet of surface area
ES-M1B	MDF moulding line - coating and drying zone consisting of spray coater and a natural gas-fired drying oven (two burners, 1.3 million Btu per hour each)	NA	NA

The Permittee has supplied PM/PM10/PM2.5 emission estimates assuming 99% control efficiency on the woodworking operations.

ES-M1A Molding Zone

Process Data

Hours of Operation	8,760 hr/yr
Line Speed	300 bf/min
Waste %	6.5% wt%
Density	45.00 lb/ft ³
Process Weight Rate ¹	36 ton/hr
MDF Usage Rate ²	45.43 m ³ /hr
Baghouse Flow	64,000 dscfm

Criteria Emissions for SN-100

Pollutant	Emission Factor ³	Uncontrolled Emissions ⁴		Controlled Emissions	
		(lb/hr)	(tpy)	(lb/hr)	(tpy)
PM	0.001 gr/dscf	1,386	6,070	0.55	2.40
PM ₁₀	0.001 gr/dscf	254	1,112	0.55	2.40
PM _{2.5}	0.001 gr/dscf	254	1,112	0.55	2.40

¹ Process weight rate calculated assuming 300 ft/min at 45 lb/ft³, plus 6.5% waste.

² Hourly MDF usage based on 300 bf/min finished product, plus 6.5% waste.

³ Grain loading rate from Nederman Technical Specifications for Dust Collection System for Secondary Wood Dust.

⁴ Uncontrolled emission calculated based on a 99% control efficiency.

Sample Calculations:

Short-Term PM Emission Rate (Controlled):

$$\frac{64,000 \text{ dscf}}{\text{min}} \times \frac{60 \text{ min}}{\text{hr}} \times \frac{0.001 \text{ gr}}{\text{dscf}} \times \frac{1 \text{ lb}}{7,000 \text{ gr}} = \frac{0.55 \text{ lb}}{\text{hr}}$$

Long-Term PM Emission Rate (Controlled):

$$\frac{0.55 \text{ lb}}{\text{hr}} \times \frac{8,760 \text{ hr}}{\text{yr}} \times \frac{1 \text{ ton}}{2,000 \text{ lb}} = \frac{2.40 \text{ ton}}{\text{yr}}$$

For increment tracking purposes the increase in PM10 emissions are 0.55 lb/hr.

VOC emissions are primarily based on the quantity of primer applied. The Permittee provided the following estimate:

ES-M1B Coating Zone**Process Data**

Hours of Operation	8,760 hr/yr
Max Primer Usage	400 gal/day

Criteria Emissions for the coating line (SN-101)

Pollutant	Emission Factor	PTE Emissions		Source
		(lb/hr)	(tpy)	
VOC	0.10 lb/gal	1.67	7.30	Safety Data Sheet

Sample Calculations:*Short-Term VOC Emission Rate:*

$$\frac{400 \text{ gal}}{\text{day}} \times \frac{0.10 \text{ lb}}{\text{gal}} \times \frac{1 \text{ day}}{24 \text{ hrs}} = \frac{1.67 \text{ lb}}{\text{hr}}$$

Long-Term VOC Emission Rate:

$$\frac{1.67 \text{ lb}}{\text{hr}} \times \frac{8,760 \text{ hr}}{\text{yr}} \times \frac{1 \text{ ton}}{2,000 \text{ lb}} = \frac{7.30 \text{ tpy}}{\text{yr}}$$

Combustion emissions are also expected from the natural gas fired drying ovens. These are direct fired ovens.

ES-M1B Oven(2 burners @ 1.3 MMBtu/hr each)**Process Data**

Maximum Heat Input per oven	1.3 MMBtu/hr
Natural Gas Conversion	1,020 MMBtu/MMcf
Hours of operation	8,760 hr/yr
Number of Burners per Oven	2 Burners

Total emissions for Line 1 Ovens

Constituent	Emission Factor	PTE Emissions		Source
		(lb/hr)	(tpy)	
PM	7.6 lb/MMcf	0.02	0.08	AP-42, Table 1.4-2
PM ₁₀	7.6 lb/MMcf	0.02	0.08	AP-42, Table 1.4-2
PM _{2.5}	7.6 lb/MMcf	0.02	0.08	AP-42, Table 1.4-2
SO ₂	0.6 lb/MMcf	0.00	0.01	AP-42, Table 1.4-2
VOC	5.5 lb/MMcf	0.01	0.06	AP-42, Table 1.4-2
CO	84.0 lb/MMcf	0.21	0.94	AP-42, Table 1.4-1
NO _x	100.0 lb/MMcf	0.25	1.12	AP-42, Table 1.4-1

Sample Calculations:*Short-Term PM Emission Rate:*

$$\frac{7.60 \text{ lb}}{\text{MMcf}} \times \frac{\text{MMcf}}{1,020 \text{ MMBtu}} \times \frac{1,300 \text{ MMBtu}}{\text{hr}} = \frac{0.02 \text{ lb}}{\text{hr}}$$

Long-Term PM Emission Rate:

$$\frac{0.02 \text{ lb}}{\text{hr}} \times \frac{8,760 \text{ hr}}{\text{yr}} \times \frac{1 \text{ ton}}{2,000 \text{ lb}} = \frac{0.08 \text{ tpy}}{\text{yr}}$$

IV. Regulatory Review

Only the regulations for which compliance may be affected by the changes proposed in this modification application will be discussed.

15A NCAC 02D .0512: PARTICULATES FROM WOOD PRODUCTS FINISHING PLANTS

The moulding zone is subject to this rule. This rule requires woodworking operations to be controlled with:

“..as a minimum for its collection, adequate duct work and properly designed collectors, or such other devices as approved by the Commission, and in no case shall the ambient air quality standards be exceeded beyond the property line.”

As described above, these sources are controlled with bagfilters. Typical M/R/R will be required for these PM sources controlled by bagfilters. Compliance is expected with this rule.

15A NCAC 02D .0515: PARTICULATES FROM MISCELLANEOUS INDUSTRIAL PROCESSES

The coating zone is subject to this rule. The allowable emissions are a function of process rate determined by the following equation:

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

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

Where E = allowable emission rate in pounds per hour
P = process weight in tons per hour

Liquid and gaseous fuels and combustion air are not considered as part of the process weight.

PM emissions are expected to originate from the combustion of natural gas or overspray from the coating operation. The coating operation is not exhausted directly to the atmosphere. Coating operations emissions are expected to reach the atmosphere via the drying oven exhaust if at all. Given the relative weight of the coating to the process rate (i.e., the weight of the moulding to be coated), a large margin of compliance is expected with this rule. Consistent with current DAQ policy no M/R/R will be required.

15A NCAC 02D .0516: SULFUR DIOXIDE EMISSIONS FROM COMBUSTION SOURCES

The coating zone is subject to this rule as it uses two natural gas-fired burners in the drying oven. The combustion of natural gas in this source is expected to result in SO₂ emissions well below the allowable limit under this Rule. Consistent with current DAQ policy, no M/R/R will be required for the firing of natural gas in this source.

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

This rule applies to both the moulding zone and the coating zone. Typical visible emissions (VE) M/R/R will be required for each emission point. Consistent with DAQ policy once per week VE monitoring will be required.

15A NCAC 2D .1111: MAXIMUM ACHIEVABLE CONTROL TECHNOLOGY

40 CFR 63, Subpart DDDD - "National Emission Standards for Hazardous Air Pollutants: Plywood and Composite Wood Products" and Subpart A "General Provisions."

Both zones of the moulding line are affected sources under the MACT pursuant to 63.2232(b). The moulding zone however has no applicable requirements. The coating zone is considered to be a "miscellaneous coating operation" as defined at 63.2292, as it applies a titanium dioxide coating. The coating operation does not meet the definition of a "Group 1 Miscellaneous Coating Operations" as defined at 63.2292. Thus, both zones of the moulding lines have no compliance requirements, operating requirements or work practice standards. Any notification requirements have been met by the submittal of the permit application.

STATE ENFORCEABLE ONLY

15A NCAC 02D .1806: CONTROL AND PROHIBITION OF ODOROUS EMISSIONS

This rule requires:

The Permittee shall not operate the facility without implementing management practices or installing and operating odor control equipment sufficient to prevent odorous emissions from the facility from causing or contributing to objectionable odors beyond the facility's boundary

This rule already applies to this facility and no compliance issues have been noted in the past. The addition of these operations is not expected to cause issues with odor beyond the property line.

15A NCAC 02Q .0530 PREVENTION OF SIGNIFICANT DETERIORATION

As shown in Section III above, the potential controlled emissions for this modification are less than the significance levels for all PSD pollutants. No further applicability analysis is required.

V. NSPS, NESHAPS, PSD, Toxics, Attainment Status, 112(r), and CAM

NSPS

NSPS applicability or existing NSPS permit conditions are not affected by this modification.

NESHAP/MACT

The facility is a major source of HAP. See discussion in Section IV.

PSD

Chatham County is in attainment for all pollutants. See PSD discussion in Section IV. Chatham County has triggered increment tracking under PSD for PM10, SO2 and NOx. For increment tracking purposes, this modification will result in an increase in 0.55 pounds per hour of PM10, 0.25 lb/hr of NOx and less than 0.01 lb/hr of SO2 (see calculations in Section III).

CAM

The controlled PTE for all pollutants is less than 100 tpy per source. The uncontrolled PTE for PM is over 100 tpy for the moulding zone. CAM will be addressed during the next permit renewal.

112r

The Permittee 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 thresholds in 112(r). This permit modification does not affect the 112(r) status of the facility.

Toxics

This modification will result in TAP emissions from the combustion of natural gas in the drying oven. The oven is subject to MACT DDDD. As such, the oven is exempt from toxics review pursuant to 15A NCAC 02Q .0702(a)(27). Pursuant to 15A NCAC 02Q .0706(c), this oven has been reviewed by this engineer and given the low rate of TAP emissions in comparison to the emission rates previously modeled against the relevant AALs, no unacceptable risk to human health is being posed by the operation of this oven. No further toxics review is necessary.

VI. Compliance History

The most recent compliance inspection was conducted on March 28, 2019 and the facility appeared to be in compliance with all applicable air quality requirements with the following exception. Arauco is working under a Special Order of Consent (SOC 2019-001) to address violations associated with the operation of the biofilter at the MDF plant.

VII. Changes Implemented in Revised Permit

Existing Condition No.	New Condition No.	Changes
Cover Letter	Same	<ul style="list-style-type: none"> Updated permit revision numbers, issue and effective dates, etc. Added minor modification language Updated increment consumption statement
Permit, page 1	Same	<ul style="list-style-type: none"> Revised dates, permit numbers, etc.
Section 1	Same	<ul style="list-style-type: none"> Added new sources ES-M1A and ES-M1B Removed source Particleboard Mill Steinemann Finishing Sander (ID No. 3545) Associated existing control devices (ID Nos. CD-2006, -3750, and -3575) with ES-M1A Added minor modification footnote
Section 2.1 E.	Same	<ul style="list-style-type: none"> Removed references to source Particleboard Mill Steinemann Finishing Sander (ID No. 3545) and associated existing control devices (ID Nos. CD-2006, -3750, and -3575) with ES-M1A throughout all conditions

Existing Condition No.	New Condition No.	Changes
Section 2.1 G. (RESERVED)	Section 2.1 G	<ul style="list-style-type: none"> • Added requirements for the new sources and associates control devices. • All requirements were added to the permit pursuant to 15A NCAC 02Q .0308(a) consistent with 02Q .0515 minor modification procedures.
Permit, page 1	Same	<ul style="list-style-type: none"> • Revised dates, permit numbers, etc.

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

Not applicable as the application is being processed as a minor modification pursuant to 15A NCAC 02Q .0515.

IX. Recommendations

It is recommended that permit no. **03449T53** be issued.

Attachment B

Permit Review for Permit Revision No. T55
for the Minor Modification Application No.
1900015.21B

NORTH CAROLINA DIVISION OF
AIR QUALITY
Application Review

Issue Date: **June 09, 2021**

Region: Raleigh Regional Office
County: Chatham
NC Facility ID: 1900015
Inspector's Name: Matthew Mahler
Date of Last Inspection: 12/16/2020
Compliance Code: 3 / Compliance - inspection

<p>Facility Data</p> <p>Applicant (Facility's Name): Arauco North America, Inc.</p> <p>Facility Address: Arauco North America, Inc. 985 Corinth Road Moncure, NC 27559</p> <p>SIC: 2493 / Reconstituted Wood Products NAICS: 321219 / Reconstituted Wood Product Manufacturing</p> <p>Facility Classification: Before: Title V After: Fee Classification: Before: Title V After:</p>	<p>Permit Applicability (this application only)</p> <p>SIP: 02D .0512, .0515, .0516, .0521, .0530, .1806 NSPS: NESHAP: Yes, MACT DDDD PSD: NA PSD Avoidance: NA NC Toxics: NA 112(r): NA Other:</p>
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<p>Contact Data</p> <table border="1" style="width: 100%;"> <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>Savannah Carroll EHS Manager (919) 544-3025 985 Corinth Road Moncure, NC 27559</td> <td>Jeff McMillian Plant Manager (919) 545-5865 985 Corinth Road Moncure, NC 27559</td> <td>Savannah Carroll EHS Manager (919) 544-3025 985 Corinth Road Moncure, NC 27559</td> </tr> </table>	Facility Contact	Authorized Contact	Technical Contact	Savannah Carroll EHS Manager (919) 544-3025 985 Corinth Road Moncure, NC 27559	Jeff McMillian Plant Manager (919) 545-5865 985 Corinth Road Moncure, NC 27559	Savannah Carroll EHS Manager (919) 544-3025 985 Corinth Road Moncure, NC 27559	<p>Application Data</p> <p>Application Number: 1900015.21B Date Received: 02/24/2021 Application Type: Modification Application Schedule: TV-Minor Existing Permit Data Existing Permit Number: 03449/T54 Existing Permit Issue Date: 05/19/2021 Existing Permit Expiration Date: 06/30/2021</p>
Facility Contact	Authorized Contact	Technical Contact					
Savannah Carroll EHS Manager (919) 544-3025 985 Corinth Road Moncure, NC 27559	Jeff McMillian Plant Manager (919) 545-5865 985 Corinth Road Moncure, NC 27559	Savannah Carroll EHS Manager (919) 544-3025 985 Corinth Road Moncure, NC 27559					

Total Actual emissions in TONS/YEAR:

CY	SO2	NOX	VOC	CO	PM10	Total HAP	Largest HAP
2019	13.61	280.04	1260.94	579.34	156.92	327.33	285.05 [Methanol (methyl alcohol)]
2018	13.75	245.13	985.75	493.30	130.56	269.46	233.06 [Methanol (methyl alcohol)]
2017	12.64	216.83	708.04	340.86	123.16	241.97	175.06 [Formaldehyde]
2016	14.52	241.64	597.49	389.07	123.90	157.11	127.51 [Formaldehyde]
2015	12.64	296.93	793.10	518.43	182.48	82.62	40.77 [Methanol (methyl alcohol)]

<p>Review Engineer: Joseph Voelker</p> <p>Review Engineer's Signature: <i>Joseph Voelker</i> Date: Jun 9, 2021</p>	<p>Comments / Recommendations: Issue 03449/T55 Permit Issue Date: 06/09/2021 Permit Expiration Date: 06/30/2021</p>
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I. Introduction and Purpose of Application

Arauco Panels USA LLC owns and operates a facility in Moncure, NC that is permitted to produce medium density fiberboard (MDF). As described in the cover letter:

With this application, Arauco is requesting a minor modification to the facility's Title V permit in accordance with 15A NCAC 02Q .0515 for the construction and operation of two new moulding lines and the modification of the control system for the already installed moulding line (ES-M1A).

Note that Arauco submitted a minor modification application for one moulding line in May 2020. At that time, it was not anticipated that two additional lines would be installed at the facility. In order to fully capture the emissions increases from the project, Arauco has presented all three current and proposed lines in the emissions calculations for this application. This approach confirms that no circumvention of any regulation was achieved by utilizing two permit applications to install all three moulding lines.

Upon review, this modification qualifies and has been requested by the Permittee to be processed as a minor modification pursuant to 15A NCAC 02Q .0515.

II. Chronology

Date	Description
02/24/2021	An application was received and assigned application no. 1900015.21A . It was submitted as a minor modification pursuant to 15A NCAC 02Q .0515.
02/26/2021	An email was sent stating that the application was incomplete as it did not include the E5 form.
03/01/2020	The revised E5 form received via email. Application deemed complete as of this date. The minor modification completeness letter was sent to the Permittee via email.
05/05/2021	A 502(b)(10) notification was received and processed as applicability determination no. 3658 by Brian Bland of this office.
05/11/2021	ADD INFO email sent requesting forms for the new silo and its associated control device
05/12/2021	An email was received requesting that the air density separator system (ADS) described in the May 5, 2021 502(b)(10) notification be added to the insignificant activities list. See discussion in Section III below.
05/13/2021	Applicability determination no. 3658 addressing the 502(b)(10) notification was closed out. As described in Section III below it was determined the 502(b)(10) process was unnecessary for the insignificant activity.
05/19/2021	Forms for the MDF moulding line shavings silo and control device requested on May 11, 2021 were received via email

III. Modification Description

As stated in the application:

With this project, Arauco is proposing to install two new moulding lines to the facility. The moulding lines will coat and dry medium density fiberboard (MDF) manufactured at the site. The moulding lines will consist of one moulding area including a rip saw, molder, and sanders (ES-M2A & ES-M3A) and one coating area, including a spray coater and a two-burner oven (ES-M2B & ES-M3B) for each new line. An existing dust collection system (CD-4005 and CD-5001) will be used in parallel for abatement of ES-M2A and ES-M3A. Arauco also plans to re-route ES-M2A to CD-4005 and CD-5001 with this project. Within the coating area, the spray coater is enclosed (no particulate emissions release) and the two-burner oven is vented to the atmosphere.

Shavings collected by CD-4005 and CD-5001 will be transferred pneumatically to a silo (ES-MSS1), which will be controlled by a cartridge filter system (CD-MSS1). Manufacturer's specifications are included in Attachment 6.

In short, the facility is adding two new moulding lines identical to the existing one recently added in permit no. T53 and tying all the PM generating aspects of the lines into a control system consisting of existing bagfilters. A new shavings silo and associated control device is also being added. The existing moulding line appears in the current permit as follows:

Emission Source ID No.	Emission Source Description	Control Device ID No.	Control Device Description
MDF Moulding Line Operations consisting of:			
ES-M1A (MACT DDDD)	MDF moulding line – moulding zone consisting of rip saw, moulder and sanders	CD-2006	Reverse flow bag filter with 6,918 square feet of surface area
		CD-3570	High efficiency cyclone - 144 inches in diameter
		CD-3575	Reverse flow bag filter with 1,159 square feet of surface area
ES-M1B (MACT DDDD)	MDF moulding line - coating and drying zone consisting of spray coater and a natural gas-fired drying oven (two burners, 1.3 million Btu per hour each)	NA	NA

These sources and the new sources will appear in the revised permit as follows:

Emission Source ID No.	Emission Source Description	Control Device ID No.	Control Device Description
MDF Moulding Line Operations consisting of:			
ES-M1A MACT DDDD	MDF moulding line 1– moulding zone consisting of rip saw, moulder and sanders	CD-4005	Reverse flow bag filter with 6,918 square feet of surface area
ES-M2A MACT DDDD	MDF moulding line 2– moulding zone consisting of rip saw, moulder and sanders	CD-5001	Reverse flow bag filter with 6,918 square feet of surface area
ES-M3A MACT DDDD	MDF moulding line 3– moulding zone consisting of rip saw, moulder and sanders		
ES-M1B MACT DDDD	MDF moulding line 1- coating and drying zone consisting of spray coater and a natural gas-fired drying oven (two burners, 1.3 million Btu per hour each)	NA	NA
ES-M2B MACT DDDD	MDF moulding line 2- coating and drying zone consisting of spray coater and a natural gas-fired drying oven (two burners, 1.3 million Btu per hour each)	NA	NA
ES-M3B MACT DDDD	MDF moulding line 3- coating and drying zone consisting of spray coater and a natural gas-fired drying oven (two burners, 1.3 million Btu per hour each)	NA	NA
ES-MSS1 MACT DDDD	MDF moulding line shavings silo	CD-MSS1	Cartridge filter (1,500 square feet of surface area)

Emission Estimates:

Emissions from the moulding zones will consist of PM/PM10/PM2.5 and will be controlled by the bagfilters.

Emissions from the coating zones will consist of fugitive VOC emissions and products of natural gas combustion from the ovens. The Permittee claims no new HAP or TAP emissions from these processes. The coating is a titanium dioxide primer and does contain VOC.

The Permittee has provided the following emission estimates for the existing moulding lines, the two new lines and the new shavings silo.

Table III -1

**Minor Modification
Arauco
Emission Summary**

ES	Source Description	PM ¹ (tpy)	PM ₁₀ ¹ (tpy)	PM _{2.5} ¹ (tpy)	SO ₂ (tpy)	VOC (tpy)	CO (tpy)	NO _x (tpy)
ES-M1A (existing)	Molding Zone	2.40	2.40	2.40	--	--	--	--
ES-M1B (existing)	Coating Zone	0.08	0.08	0.08	0.01	7.36	0.94	1.12
ES-M2A	Molding Zone	--	--	--	--	--	--	--
ES-M2B	Coating Zone	0.08	0.08	0.08	0.01	7.36	0.94	1.12
ES-M3A	Molding Zone	--	--	--	--	--	--	--
ES-M3B	Coating Zone	0.08	0.08	0.08	0.01	7.36	0.94	1.12
ES-MSS1	Shavings Silo	1.85E-05	1.85E-05	1.98E-06	--	--	--	--
Total		2.66	2.66	2.66	0.02	22.08	2.81	3.35

¹ Emissions from ES-M2A and ES-M3A are included in the total emissions calculated from ES-M1A.

Air Density Separator

On May 5, 2021, a 502(b)(10) notification was received to add an air density separator system (ADS) to the permit. It is fully described in that notification but worth repeating here:

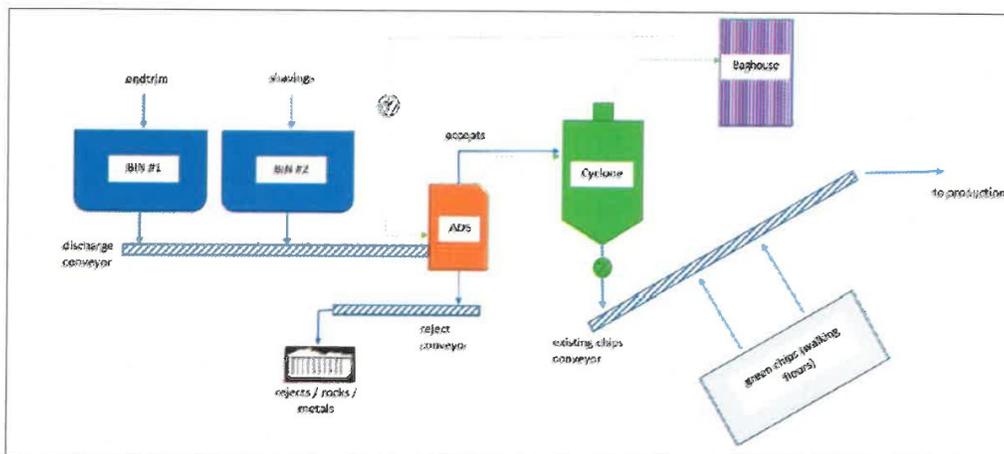
Arauco is submitting this 502(b)(10) notification to DAQ for the installation of an air density separator (ADS) system at the Moncure facility. The ADS system will allow the facility to better control the addition of certain raw materials to the MDF process. This project will not allow the facility to increase production design capacity of any existing equipment, but could result in increased utilization of existing equipment through reduced maintenance downtime. This downtime is associated with the replacement of the plates within the refiners due to damage that occurs from debris (rocks, metal, etc.) that is introduced via raw materials. The potential downtime reduction is 15 hours per month, or 180 hours per year.

The facility currently utilizes a manually fed conveyance system, which will be modified with several additions, which are described below:

- Endtrim Bin
- Shavings Bin
- Discharge Conveyor (ADS feed)
- Air Density Separator
- Cyclone
- Baghouse
- Reject Conveyor

The cyclone will feed the existing chips conveyor to the MDF process. A process flow diagram is included on the following page, along with a detailed process description.

Figure 1. Process Flow Diagram



As shown in Figure 1 above, material is dropped manually into the bins, which feed screw conveyors (shown above as the discharge conveyor) that transfer material into ADS unit. The ADS system uses an air stream to carry the material through the separator. The desired material (wood) is less dense and is pushed to the top of the unit and the more dense, undesired materials (rejects, rocks, metals, etc.) drop to the bottom of the unit and are discharged to the reject conveyor. The top of the ADS vents to a process cyclone that separates the larger solids onto the existing chips conveyor and removes any small particles, venting to a baghouse. The baghouse cleans the air stream any small particles and recycles the air back to the ADS. It is important to note that 100% of the air leaving the cyclone is vented to the baghouse and 100% of the air leaving the baghouse is vented back into the ADS. Both the cyclone and baghouse are considered process equipment and are not control devices.

As described above, the ADS system will only have some fugitive PM emissions from the dumping operation into the bins. The baghouse and cyclone air is 100% recycled. Note that the existing manually fed system described above is not explicitly identified in the permit. However, it is likely “incorporated” into one of the uncontrolled material handling sources identified in Section 2.1 A of the permit.

The Permittee estimates the emissions from the ADS and its effect of increasing utilization of the other associated emission units as follows:

Table III-2

Table 3. Project Emissions Increase Summary

Emissions	Total PM (tpy)	PM ₁₀ (tpy)	PM _{2.5} (tpy)	VOC (tpy)	SO ₂ (tpy)	NO _x (tpy)	CO (tpy)	Lead (tpy)
Increases from New/Modified Units	2.93	1.38	0.21	--	--	--	--	--
Increases from Associated Units	2.11	2.09	2.09	9.24	0.11	2.00	2.45	4.60E-04
Total Change	5.04	3.48	2.30	9.24	0.11	2.00	2.45	4.60E-04
SER	25	15	10	40	40	40	100	0.6
% of SER	20%	23%	23%	23%	0%	5%	2%	0%
Exceeds?	No	No	No	No	No	No	No	No

Note the following:

- 1) the new source (ADS) has a PTE of less than 5 tpy of all pollutants and hence qualifies as an insignificant activity based on size or production rate.
- 2) the operation of the ADS does not result in a significant increase in any regulated NSR pollutant.

Given the above, the ADS does not have to be incorporated into Section 1 of the permit and hence a 502(b)(10) process is unnecessary. The notification was processed as applicability termination no. 3658 with the determination that the ADS can be

incorporated into the TV permit as an insignificant activity. The ADS system will be incorporated into the insignificant activities list described as follows to facilitate on-site inspections.

Emission Source ID No.	Emission Source Description
I-ADS	Material Separator System consisting of an Endtrim Bin, Shavings Bin, Discharge Conveyor (ADS feed), Air Density Separator, Cyclone, Baghouse and Reject Conveyor all operated with 100% recycled air.

IV. Regulatory Review

Only the regulations for which compliance may be affected by the changes proposed in this modification application will be discussed.

15A NCAC 02D .0512: PARTICULATES FROM WOOD PRODUCTS FINISHING PLANTS

The moulding zones and shavings silo is subject to this rule. This rule requires woodworking operations to be controlled with:

“..as a minimum for its collection, adequate duct work and properly designed collectors, or such other devices as approved by the Commission, and in no case shall the ambient air quality standards be exceeded beyond the property line.”

As described above, these sources are controlled with bagfilters or cartridge filters. Typical monitoring, recordkeeping and reporting will be required for these PM sources. Compliance is expected with this rule.

15A NCAC 02D .0515: PARTICULATES FROM MISCELLANEOUS INDUSTRIAL PROCESSES

The coating zones are subject to this rule. The allowable emissions are a function of process rate determined by the following equation:

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

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

Where E = allowable emission rate in pounds per hour
P = process weight in tons per hour

Liquid and gaseous fuels and combustion air are not considered as part of the process weight.

PM emissions are expected to originate from the combustion of natural gas or overspray from the coating operations. The coating operations are not exhausted directly to the atmosphere. Coating operations emissions are expected to reach the atmosphere via the drying oven exhaust if at all. Given the relative weight of the coating to the process rate (i.e., the weight of the moulding to be coated), a large margin of compliance is expected with this rule. Consistent with current DAQ policy no monitoring, recordkeeping and reporting will be required.

15A NCAC 02D .0516: SULFUR DIOXIDE EMISSIONS FROM COMBUSTION SOURCES

The coating zones are subject to this rule as each uses two natural gas-fired burners in the drying oven. The combustion of natural gas in this source is expected to result in SO₂ emissions well below the allowable limit under this Rule. Consistent with current DAQ policy, no monitoring, recordkeeping and reporting will be required for the firing of natural gas in this source.

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

This rule applies to both the moulding zones, coating zones and storage silo. Typical visible emissions (VE) monitoring, recordkeeping and reporting will be required for each emission point. Consistent with DAQ policy once per week VE monitoring will be required.

15A NCAC 2D .1111: MAXIMUM ACHIEVABLE CONTROL TECHNOLOGY

40 CFR 63, Subpart DDDD - “National Emission Standards for Hazardous Air Pollutants: Plywood and Composite Wood Products” and Subpart A “General Provisions.”

Both zones of the moulding line and the storage silo are affected sources under the MACT pursuant to 63.2232(b). The moulding zones and storage silo however has no applicable requirements. The coating zones are considered to be a “miscellaneous coating operation” as defined at 63.2292, as it applies a titanium dioxide coating. The coating operation does not meet the definition of a “Group 1 Miscellaneous Coating Operations” as defined at 63.2292. Thus, both zones of the moulding lines or the storage silo have no compliance requirements, operating requirements or work practice standards. Any notification requirements have been met by the submittal of the permit application.

STATE ENFORCEABLE ONLY

15A NCAC 02D .1806: CONTROL AND PROHIBITION OF ODOROUS EMISSIONS

This rule requires:

The Permittee shall not operate the facility without implementing management practices or installing and operating odor control equipment sufficient to prevent odorous emissions from the facility from causing or contributing to objectionable odors beyond the facility’s boundary

This rule already applies to this facility and no compliance issues have been noted in the past. The addition of these operations is not expected to cause issues with odor beyond the property line.

15A NCAC 02Q .0530 PREVENTION OF SIGNIFICANT DETERIORATION

As shown in Section III above, the potential controlled emissions for this modification are less than the significance levels for all PSD pollutants. No further applicability analysis is required.

V. Permitting History since last renewal

The Permitting history for the facility since the last permit renewal (permit no. T45) is provided below. Note the current application is similar to App. No. 20A referenced below.

Permit No.	Issue Date	Application No.	Application type
T54	05/19/2021	19D	PSD -TV significant
<p>Purpose of Application: The purpose of this application is to:</p> <ul style="list-style-type: none"> increase the allowable nitrogen oxides (NOx) emissions from the MDF plant’s energy system (Energy System). Arauco shut down the PB plant at the facility in April 2020. Through this application, Arauco will incorporate this permanent shutdown of the PB plant emission units and utilize a contemporaneous netting analysis to increase the allowable NOx emissions from the Energy System. The analysis will show that the increase in NOx emissions will not be considered a PSD modification and therefore will not be subject to PSD review. reevaluate the VOC BACT determination at the MDF plant originally incorporated into permit no. T47 issued August 30, 2017. 			

Permit No.	Issue Date	Application No.	Application type
T53	06/16/2020	20A	TV-minor
<p>Purpose of Application: The purpose of this application is to construct and operate a new moulding production line at the MDF plant.</p>			

Permit No.	Issue Date	Application No.	Application type
T52	01/02/2020	18B, 19C	TV-significant
<p>Purpose of Application: The purpose of this combined application is: Application No. 18B</p> <ul style="list-style-type: none"> to incorporate monitoring parameters established during MACT DDDD(4D) required performance testing 			

- to address questions concerning emission factors incorporated into the PSD Avoidance condition found at Section 2.2 B.1.

Application No. 19A

- to remove wastewater evaporator (EVAP-1) from the permit;
- to revise MACT 5D boiler tune requirements for sources ES-18, -19 and -20;
- to add Routine control device maintenance exemption as allowed under MACT 4D;
- to satisfy the permit application submittal requirement of Section 2.2 B.3 in the current permit

Permit No.	Issue Date	Application No.	Application type
T51	03/06/2019	19A	TV-administrative
<p>Purpose of Application: The purpose of this application is for a name change as listed below:</p> <p style="text-align: center;"><i>New Facility Name:</i> Arauco North America, Inc. <i>Former Facility Name:</i> Arauco Panels USA LLC</p>			

Permit No.	Issue Date	Application No.	Application type
T50	11/21/2018	18A	Modification PSD and TV-Sign-501(b)(2) Part I
<p>Purpose of Application: Arauco has submitted a permit application to increase actual throughput in the MDF operation by making upgrades to plant equipment. No changes that are to be made will affect throughput of the PB operations. See the attached Preliminary Determination for full details.</p> <p>This application was processed consistent with 15A NCAC 02D .0530 Prevention of Signification Deterioration. For Title V purposes, the changes were considered to be significant modifications. Because the changes to the permit were determined to not contravene or conflict with any conditions in the existing permit, the application was also processed in a two-step fashion consistent with 15A NCAC 02Q .0501(b)(2) and 02Q .0504. The Permittee shall file an amended application following the procedures of Section 15A NCAC 02Q .0500 (Title V) no later than 12 months after the issuance of permit no. 03449T50. <i>(The second step was addressed in the issuance of Permit No. T52.)</i></p>			

Permit No.	Issue Date	Application No.	Application type
T49	02/28/2018	17B	TV-Significant
<p>Purpose of Application: The purpose of this application is as follows (excerpt from permit application):</p> <p>On November 15, 2015, Arauco entered into a Special Order by Consent (SOC) to remove the existing PGT Control devices (CD02-2, CD14-2, CD16-2, and CD-PB-PGT). Alternative control systems have been evaluated and Arauco is submitting this Air Permit Modification Application to convert the particleboard green rotary dryers to dry rotary dryers, as defined in Part 63.2292, and to demonstrate PCWP MACT compliance for the particleboard press through successful demonstration of the production-based compliance option as defined in Table A to Subpart DDDD of Part 63.</p> <p>The SOC referenced above addresses the steps by which compliance with 40 CFR 63 Subpart DDDD will be achieved for the MDF plant and the PB plant. This includes the submittal of permit applications. This application will address compliance of the PB plant. Compliance by the MDF plant was addressed in application no. 16A which resulted in the issuance of permit no. T45. This application will be processed as a significant modification pursuant to 15A NCAC 02Q .0516.</p> <p>In addition, permit no. T48, issued December 21, 2017 addressed a significant modification to the MDF plant backup burners (application no. 1900015.17D, see chronology). It was processed via the two-step process pursuant to 15A NCAC 02Q .0504. That modification will also be subjected to public and EPA review along</p>			

with the modifications addressed specifically in this application. The review for permit no. T48 will be included as an attachment to this review.

Permit No.	Issue Date	Application No.	Application type
T48	12/21/2017	17D	TV-Sign-501(b)(2) Part I
<p>Purpose of Application: The purpose of this application is as follows (excerpt from permit application):</p> <p>Arauco Panels is requesting to replace the 78.5 MMBtu/hr backup natural gas burner ES-02-C with two 35 mm Btu/hr heaters in its stead to increase reliability of the plant during periods where the primary energy system, a 205 MMBtu/hr wood fired heater, is down for maintenance. During periods where the wood-fired energy system is not operating, the MDF plant does not operate at full capacity and struggles with quality and reliability. Also, the burner configuration, originally designed by the site's previous owner Uniboard, has a potential to increase risk for fire because the configuration is not up to modern standards for wood products safety.</p> <p>The new burners will be subject the Plywood and Composite Wood Products NESHAP (PCWP MACT DDDD) as they will directly fire the existing blow line MDF dryer. The burners ES -02-C and ES-02-A were deemed to not be subject to NSPS subpart Dc by the DAQ in 2011.</p> <p>This application will be processed as a two-step significant modification pursuant to 15A NCAC 02Q .0504. <i>(The second step was addressed in the issuance of Permit No. T49.)</i></p>			

Permit No.	Issue Date	Application No.	Application type
T47	08/30/2017	17A	PSD
<p>Purpose of Application: The purpose of this application is as follows (excerpt from permit application):</p> <p>This Prevention of Significant Deterioration (PSD) application does not include the PB plant at the facility and addresses only the MDF plant. Best Available Control Technology (BACT) limits for the PB plant were established prior to the installation of the Photo-catalytic Gas Treatment (PGT) systems at Arauco, and the existing BACT limits for the PB plant are not affected by this modification.</p> <p><u>Background and PSD Project</u></p> <p>Arauco has used PGT systems to control pollutants from its PB and MDF plants. The PB plant included one PGT system (ID No. CD-PB- PGT), while the MDF plant used three PGT systems (ID Nos. CD02-2, CD14-2, and CD16-2) for pollutant control. The PGT systems were installed by Uniboard USA, LLC, a previous owner of the Moncure facility. The PGT units oxidize and thereby destroy emissions of volatile organic compounds (VOCs) and certain hazardous air pollutants (HAPs), including formaldehyde and methanol, using hydrogen peroxide and UV lighting systems. The PGT systems require significant quantities of proprietary ferrous sulfate and oxalic acid solutions for catalyzing the oxidation reaction. Further, the UV lighting systems are difficult to maintain and require frequent replacement due to the difficult operating environment. In addition to operational issues, the PGT systems and the associated chemicals have resulted in safety issues at the facility, including fires and chemical exposure to employees.</p> <p>On September 9, 2015, Arauco entered into Special Order by Consent (SOC) 2015-002 with the North Carolina Division of Air Quality (NCDAQ) to request removal of the PGT units and to address the resulting noncompliance with 40 CFR Part 63 Subpart DDDD, "National Emission Standards for Hazardous Air Pollutants (NESHAP) for Plywood and Composite Wood Products." The SOC became final on November 2, 2015. The SOC allowed Arauco to decommission the PGT systems due to underperformance and safety issues noted above. Arauco has previously accepted PSD avoidance limits for the MDF plant, and the SOC also addressed the possibility decommissioning the PGT systems in the MDF plant could result in an exceedance of the avoidance limit for VOCs. In the event the PSD avoidance limit for VOCs was exceeded, Paragraph II.A.ii of the SOC required the Permittee to submit a PSD application if deemed necessary by the NCDAQ. Per a letter dated October 17, 2016, NCDAQ deemed it necessary that Arauco submit a PSD permit application because VOC emissions from the MDF plant had exceeded the PSD avoidance limit from June through September 2016. (Note exceedances of the</p>			

PSD avoidance limit have been ongoing ever since June 2016.) The PSD application was due within 120 receipt of the letter (i.e., by February 14, 2017).

Permit No.	Issue Date	Application No.	Application type
T46	07/31/2017	17C	TV-Sign-501(c)(2) Part I
<p>Purpose of Application: The purpose of this application is as follows (excerpt from permit application):</p> <p>The purpose of this application is to request a permit for a wastewater evaporator (WWE) that has already been constructed at the facility.</p> <p>The Permittee had previously requested an applicability determination for the WWE on August 5, 2016. The DAQ responded on September 23, 2016 stating:</p> <p style="padding-left: 40px;">The NCDAQ has reviewed your request and concluded that based on the limited information available the evaporator unit appears to have potential uncontrolled emissions of particulate matter greater than 5 tons per year and therefore does not qualify as an insignificant activity pursuant to 15A NCAC 02Q .0503(8).</p> <p>This application will be processed as the 1st step of the 2-step significant modification process as allowed pursuant to 15A NCAC 02Q .0504. <i>(The second step was addressed in the issuance of Permit No. T52.)</i></p>			

Permit No.	Issue Date	Application No.	Application type												
T45	07/31/2017	08D, 12C, 16A	TV-Renewal/Significant Modification												
<p>Purpose of Application: The purpose of this application is as follows (excerpt from permit application):</p> <table border="1"> <thead> <tr> <th>Task</th> <th>Description</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>The renewal of permit no. T34, which expired on July 31, 2009 (application no. 9800015.08D)</td> </tr> <tr> <td>2</td> <td>The Part II application for the Part I applications 1900015.07A, 08C and 09B that addressed the rebuilding and modifications to the MDF plant (application no. 9800015.12B) (this application was consolidated into 9800015.12C)</td> </tr> <tr> <td>3</td> <td>Compliance of the particle board plant with MACT DDDD (application no. 9800015.12C)</td> </tr> <tr> <td>4</td> <td>Compliance of the MDF plant with MACT DDDD (application no. 9800015.12A) (this application was consolidated into 9800015.12C)</td> </tr> <tr> <td>5</td> <td>Modifications to the MDF plant performed primarily for compliance with MACT DDDD (application no. 9800015.16A).</td> </tr> </tbody> </table>				Task	Description	1	The renewal of permit no. T34, which expired on July 31, 2009 (application no. 9800015. 08D)	2	The Part II application for the Part I applications 1900015.07A, 08C and 09B that addressed the rebuilding and modifications to the MDF plant (application no. 9800015. 12B) (this application was consolidated into 9800015. 12C)	3	Compliance of the particle board plant with MACT DDDD (application no. 9800015. 12C)	4	Compliance of the MDF plant with MACT DDDD (application no. 9800015. 12A) (this application was consolidated into 9800015. 12C)	5	Modifications to the MDF plant performed primarily for compliance with MACT DDDD (application no. 9800015. 16A).
Task	Description														
1	The renewal of permit no. T34, which expired on July 31, 2009 (application no. 9800015. 08D)														
2	The Part II application for the Part I applications 1900015.07A, 08C and 09B that addressed the rebuilding and modifications to the MDF plant (application no. 9800015. 12B) (this application was consolidated into 9800015. 12C)														
3	Compliance of the particle board plant with MACT DDDD (application no. 9800015. 12C)														
4	Compliance of the MDF plant with MACT DDDD (application no. 9800015. 12A) (this application was consolidated into 9800015. 12C)														
5	Modifications to the MDF plant performed primarily for compliance with MACT DDDD (application no. 9800015. 16A).														

VI. NSPS, NESHAPS, PSD, Toxics, Attainment Status, 112(r), and CAM

NSPS

The changes addressed in this permit application do not affect the ability of the facility to comply with any existing NSPS applicable compliance requirements nor trigger any new requirements.

NESHAP/MACT

The facility is major source of HAP. The changes addressed in this permit application do not affect the ability of the facility to comply with any existing MACT applicable compliance requirements nor trigger any new requirements.

PSD

Chatham County is in attainment for all pollutants. See PSD discussions in Section IV. Chatham County has triggered increment tracking under PSD for PM10, SO2 and NOx.

To calculate increment consumption for the new sources (excluding the ADS), Table III-1 was used. The tpy values were divided by 8760 hours per year to determine lb/hr values. The contribution of the existing line was then subtracted. The result is as follows:

PM10 = 7.8 lb/hr.

NOx = 9.8 lb/hr

SO2 = 0.06 lb/hr

For the ADS, Table III-2 was used. The tpy values were divided by 8760 hours per year to determine lb/hr values. Only the contribution of the ADS was included. The speculative increased utilization of the existing sources was not included. The result is as follows:

PM10 = 4.0 lb/hr.

CAM

The modifications discussed in this application do not trigger any additional CAM review at this time. All new sources utilizing control devices have an after-control PTE of less than 100 tpy. CAM will be addressed during the next permit renewal.

112r

The Permittee 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 thresholds in 112(r). This permit modification does not affect the 112(r) status of the facility.

NC Toxics

The modifications discussed in this application do not trigger any review under the state enforceable only toxics rules at 15A NCAC 02Q .0700 and 02D .1100.

VII. Compliance History

The most recent compliance inspection was conducted on December 16, 2020 and the facility appeared to be in compliance with all applicable air quality requirements with some exceptions. Arauco is working under a Special Order of Consent (SOC 2020-002) to address violations associated with the operation of the biofilter at the MDF plant.

VIII. Changes Implemented in Revised Permit

Existing Condition No.	New Condition No.	Changes
Cover Letter	Same	<ul style="list-style-type: none"> Updated permit revision numbers, issue and effective dates, etc. Added minor modification language. Updated increment consumption statement
Insignificant Activities List	Same	<ul style="list-style-type: none"> Added the air density separator system
Permit, page 1	Same	<ul style="list-style-type: none"> Revised dates, permit numbers, etc.

Existing Condition No.	New Condition No.	Changes
Section 1	Same	<ul style="list-style-type: none"> • Added sources and control devices requested in application as follows: <ul style="list-style-type: none"> • The existing control system (consisting of CD-2006, -3570 and -3575) was removed from the MDF moulding line-moulding zone (ID No. ES-M1A) and the permit. The emissions from the moulding zone are now routed to a control system consisting of two bagfilters (ID Nos. CD-4005 and -5001) that are being repurposed from the PB plant shut down in permit No. T54. • Two new moulding line- moulding zones (ID Nos. ES-M2A and -M3A) were added to the permit and the emissions are routed to (ID Nos. CD-4005 and -5001). • Two new MDF moulding line – coating and drying zones (ID nos. ES-M2B and -M3B) were added to the permit. • One new MDF shavings silo and associated control device was added to the permit (ID Nos. ES-MSS1 and CD- MSS1) • Double asterisks (**) and associated footnote were added to all sources and control devices affected by this minor modification
Section 2.1 G	Same	<ul style="list-style-type: none"> • Added reference to new sources described in Section 1 changes above. • The regulatory citations for the conditions in this section were corrected from 02Q .0308(a) to 02Q .0508(f). During the processing of the minor modification which resulted in the issuance of permit no. T53, Section 2.1 G was added. The regulatory citations added at that time should have been 02Q .0508(f) as the modification was processed as a TV minor modification. 02Q .0308(a) is the regulatory citation used when processing modifications not yet subjected to TV permitting procedures (i.e., public /EPA noticing). • No other changes were necessary to the existing permit conditions other than updating equipment ID No. references.

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

NA

X. Recommendations

It is recommended to issue permit no. T55 as drafted.

Attachment C

Permit Review for Permit Revision No. T57
for the Minor Modification Application No.
1900015.22A

**NORTH CAROLINA DIVISION OF
AIR QUALITY**

Application Review

Issue Date: June 15, 2022

Region: Raleigh Regional Office
County: Chatham
NC Facility ID: 1900015
Inspector's Name: Jeff Harris
Date of Last Inspection: 02/02/2022
Compliance Code: 3 / Compliance - inspection

Facility Data	Permit Applicability (this application only)
<p>Applicant (Facility's Name): Arauco North America, Inc.</p> <p>Facility Address: Arauco North America, Inc. 985 Corinth Road Moncure, NC 27559</p> <p>SIC: 2493 / Reconstituted Wood Products NAICS: 321219 / Reconstituted Wood Product Manufacturing</p> <p>Facility Classification: Before: Title V After: Title V Fee Classification: Before: Title V After: Title V</p>	<p>SIP: 02Q .0317 NSPS: NA NESHAP: NA PSD: NA PSD Avoidance: Yes, 02Q .0317 NC Toxics: NA 112(r): NA Other:</p>

Contact Data			Application Data
Facility Contact	Authorized Contact	Technical Contact	
<p>Savannah Carroll EHS Manager (919) 545-5848 985 Corinth Road Moncure, NC 27559</p>	<p>Jeff McMillian Plant Manager (919) 545-5865 985 Corinth Road Moncure, NC 27559</p>	<p>Savannah Carroll EHS Manager (919) 545-5848 985 Corinth Road Moncure, NC 27559</p>	<p>Application Number: 1900015.22A Date Received: 03/28/2022 Application Type: Modification Application Schedule: TV-Minor Existing Permit Data Existing Permit Number: 03449/T56 Existing Permit Issue Date: 03/28/2022 Existing Permit Expiration Date: 02/28/2027</p>

Total Actual emissions in TONS/YEAR:

CY	SO2	NOX	VOC	CO	PM10	Total HAP	Largest HAP
2020	7.58	111.15	600.67	194.33	146.58	241.16	227.18 [Methanol (methyl alcohol)]
2019	13.61	280.04	1260.94	579.34	156.92	327.33	285.05 [Methanol (methyl alcohol)]
2018	13.75	245.13	985.75	493.30	130.56	269.46	233.06 [Methanol (methyl alcohol)]
2017	12.64	216.83	708.04	340.86	123.16	241.97	175.06 [Formaldehyde]
2016	14.52	241.64	597.49	389.07	123.90	157.11	127.51 [Formaldehyde]

<p>Review Engineer: Joseph Voelker</p> <p>Review Engineer's Signature: <i>Joseph Voelker</i></p> <p>Date: June 15, 2022</p>	<p>Comments / Recommendations: Issue 03449/T57 Permit Issue Date: 06/15/2022 Permit Expiration Date: 02/28/2027</p>
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I. Introduction and Purpose of Application

Arauco North America, Inc. (Arauco) owns and operates a facility in Moncure, NC that is permitted to produce medium density fiberboard (MDF). Arauco currently holds air permit no. 03449T56.

Arauco has submitted a request to revise its air permit pursuant to the minor modification procedures at 15A NCAC 02Q .0515 "Minor Modification Procedures." The request involves revising the NOx emission factors used for PSD Avoidance purposes. These emission factors are deemed to be less stringent than those in the existing permit. See Section III below for further discussion.

II. Chronology

Date	Description
12/22/2021	A memo was issued by the Stationary Source Compliance Branch of the DAQ memorializing and approving the results of the source testing conducted on October 20 and 21, 2021. The DAQ tracking number for the testing is 2021-251ST.
03/28/2022	Application was received and assigned Application No. 2900109.22A. Application deemed complete as of this date. The minor modification completeness letter was sent to the Permittee via email.
05/26/2022	An ADD INFO email was sent. During the performance testing used to justify the less stringent emission factors, the urea/water injection rate was 0.38 gallons per minute (gpm), a rate greater than in the permit. To utilize the less stringent emission factors, the minimum urea/water injection rate will need to be increased in the permit from 0.24 to 0.38 gpm (3-hour block average). The permit application was silent in this regard. The ADD INFO requested concurrence from Arauco that the permit is to also be revised to increase the urea/water injection rate to 0.38 gpm.
06/06/2022	Email received from Arauco in response to the 05/26/2022 email stating: You are correct on all counts below, and we concur with you moving forward on the rates mentioned.

III. Modification Description

The DAQ issued Permit No. 03449T54 which authorized Arauco to utilize the urea/water injection system (ID No. CD02-A) to reduce NOx emissions on a voluntary basis as long as Arauco maintains actual emissions less than the annual NOx PSD avoidance limit. The PSD avoidance limit and associated monitoring are contained in Condition 2.2 B.3 of the facility's current Title V permit.

In accordance with Condition 2.2 B.3.b.ii, Arauco conducted a stack testing on October 20-21, 2021 to confirm or re-establish the emission factors and monitoring parameter used in demonstrating compliance with the NOx PSD avoidance limit. Arauco received a letter from the DAQ approving the submitted stack test results on December 29, 2021. In accordance with Condition 2.2 B.3.b.iv.(B), Arauco is submitting this minor modification application to revise the uncontrolled and controlled NOx emission factors listed in Table 2.2 B.3 to the values measured during the October 2021 testing. A comparison of the current and proposed factors is shown in Table A below.

Table A

Emission Point	Emission Source Description*	Existing		Requested	
		NOx Emission Factor (lb/MMBtu)	Minimum Urea/Water Injection Rate (gpm)	NOx Emission Factor (lb/MMBtu)	Minimum Urea/Water Injection Rate (gpm)
MDF sources with no urea/water injection (uncontrolled)					
ES-02-A	energy system consisting of one dry/wet wood/woodwaste-fired burner	0.791	NA	0.61	NA
ES-02-B, ES-02-C-1, ES-02-C-2, ES-02-D	two stage dryer system and three backup natural gas-fired dryer burners				
MDF sources with urea/water injection (controlled)					
ES-02-A	energy system consisting of one dry/wet wood/woodwaste-fired burner	0.33	0.24	0.27	0.38
ES-02-B, ES-02-C-1, ES-02-C-2, ES-02-D	two stage dryer system and three backup natural gas-fired dryer burners				

Note that although the requested emission factors are less stringent, the Permittee will have to increase its minimum urea/water injection rate from 0.24 to 0.38 gallons per minute (gpm), 3-hour block average.

The Permit will be revised to reflect these new emission factors and the urea/water injection rate. Consistent with minor modification procedures at 02Q .0515, Arauco can use these emission factors as of March 28, 2022, the date of receipt of the complete application assuming that the minimum urea/water injection rate is 0.38 gpm, 3-hour block average.

IV. Regulatory Review

The revision to the emission factors for NOx and the monitoring parameter for the urea/water injection system have implications with the following rule only. No other discussion is necessary.

15A NCAC 02Q. 0317: AVOIDANCE CONDITIONS for 15A NCAC 02D .0530: PREVENTION OF SIGNIFICANT DETERIORATION

The condition limits the NOx emissions from the sources in Table A above to no more than 308 tons per consecutive 12-month period. See Section III above for all relevant discussion. Continued compliance with this rule is expected.

V. Permitting History since last renewal

The Permitting history for the facility since the last permit renewal (permit no. T45) is provided below. Most language below is excerpted directly from the associated review document.

Permit No.	Issue Date	Application No.	Application type
T56	03/28/2022	21C	TV-Administrative
<p>Purpose of Application: Arauco has submitted a request to revise its air permit pursuant to the administrative procedures at 15A NCAC 02Q .0514. The items addressed were:</p> <ul style="list-style-type: none"> Adjustment of the operating biofilter bed temperature range in condition 2.2.A.1.h from the current temperature minimum of 119 degrees F and maximum 154 degrees F to minimum 132 degrees F and maximum of 152 degrees F as a result of performance testing and pursuant to PCWP MACT regulation. Since Arauco has satisfied all requirements of the Special Order of Consent Number 2020-002 (SOC), it requested the removal of the SOC from the permit. 			

Permit No.	Issue Date	Application No.	Application type
T55	06/09/2021	21B	TV-Minor
<p>Purpose of Application: With this application, Arauco is requesting a minor modification to the facility's Title V permit in accordance with 15A NCAC 02Q .0515 for the construction and operation of two new moulding lines and the modification of the control system for the already installed moulding line (ES-M1A).</p> <p>Note that Arauco submitted a minor modification application for one moulding line in May 2020. At that time, it was not anticipated that two additional lines would be installed at the facility. In order to fully capture the emissions increases from the project, Arauco has presented all three current and proposed lines in the emissions calculations for this application. This approach confirms that no circumvention of any regulation was achieved by utilizing two permit applications to install all three moulding lines.</p> <p>Upon review, this modification qualifies and has been requested by the Permittee to be processed as a minor modification pursuant to 15A NCAC 02Q .0515.</p> <ul style="list-style-type: none"> 			

Permit No.	Issue Date	Application No.	Application type
T54	05/19/2021	19D	PSD -TV significant
<p>Purpose of Application: The purpose of this application is to:</p> <ul style="list-style-type: none"> increase the allowable nitrogen oxides (NOx) emissions from the MDF plant's energy system (Energy System). Arauco shut down the PB plant at the facility in April 2020. Through this application, Arauco will incorporate this permanent shutdown of the PB plant emission units and utilize a contemporaneous netting analysis to increase the allowable NOx emissions from the Energy System. The analysis will show that the increase in NOx emissions will not be considered a PSD modification and therefore will not be subject to PSD review. reevaluate the VOC BACT determination at the MDF plant originally incorporated into permit no. T47 issued August 30, 2017. 			

Permit No.	Issue Date	Application No.	Application type
T53	06/16/2020	20A	TV-minor
Purpose of Application:			

The purpose of this application is to construct and operate a new moulding production line at the MDF plant.

Permit No.	Issue Date	Application No.	Application type
T52	01/02/2020	18B, 19C	TV-significant
<p>Purpose of Application: The purpose of this combined application is:</p> <p><u>Application No. 18B</u></p> <ul style="list-style-type: none"> to incorporate monitoring parameters established during MACT DDDD(4D) required performance testing to address questions concerning emission factors incorporated into the PSD Avoidance condition found at Section 2.2 B.1. <p><u>Application No. 19A</u></p> <ul style="list-style-type: none"> to remove wastewater evaporator (EVAP-1) from the permit; to revise MACT 5D boiler tune requirements for sources ES-18, -19 and -20; to add Routine control device maintenance exemption as allowed under MACT 4D; to satisfy the permit application submittal requirement of Section 2.2 B.3 in the current permit 			

Permit No.	Issue Date	Application No.	Application type
T51	03/06/2019	19A	TV-administrative
<p>Purpose of Application: The purpose of this application is for a name change as listed below:</p> <p style="text-align: center;"><i>New Facility Name:</i> Arauco North America, Inc. <i>Former Facility Name:</i> Arauco Panels USA LLC</p>			

Permit No.	Issue Date	Application No.	Application type
T50	11/21/2018	18A	Modification PSD and TV-Sign-501(b)(2) Part I
<p>Purpose of Application: Arauco has submitted a permit application to increase actual throughput in the MDF operation by making upgrades to plant equipment. No changes that are to be made will affect throughput of the PB operations. See the attached Preliminary Determination for full details.</p> <p>This application was processed consistent with 15A NCAC 02D .0530 Prevention of Signification Deterioration. For Title V purposes, the changes were considered to be significant modifications. Because the changes to the permit were determined to not contravene or conflict with any conditions in the existing permit, the application was also processed in a two-step fashion consistent with 15A NCAC 02Q .0501(b)(2) and 02Q .0504. The Permittee shall file an amended application following the procedures of Section 15A NCAC 02Q .0500 (Title V) no later than 12 months after the issuance of permit no. 03449T50. (<i>The second step was addressed in the issuance of Permit No. T52.</i>)</p>			

Permit No.	Issue Date	Application No.	Application type
T49	02/28/2018	17B	TV-Significant
<p>Purpose of Application: The purpose of this application is as follows (excerpt from permit application):</p> <p>On November 15, 2015, Arauco entered into a Special Order by Consent (SOC) to remove the existing PGT Control devices (CD02-2, CD14-2, CD16-2, and CD-PB-PGT). Alternative control systems have been evaluated and Arauco is submitting this Air Permit Modification Application to convert the particleboard green rotary dryers to dry rotary dryers, as defined in Part 63.2292, and to demonstrate PCWP MACT compliance for the particleboard press through successful demonstration of the production-based compliance option as defined in Table A to</p>			

Subpart DDDD of Part 63.

The SOC referenced above addresses the steps by which compliance with 40 CFR 63 Subpart DDDD will be achieved for the MDF plant and the PB plant. This includes the submittal of permit applications. This application will address compliance of the PB plant. Compliance by the MDF plant was addressed in application no. 16A which resulted in the issuance of permit no. T45. This application will be processed as a significant modification pursuant to 15A NCAC 02Q .0516.

In addition, permit no. T48, issued December 21, 2017 addressed a significant modification to the MDF plant backup burners (application no. 1900015.17D, see chronology). It was processed via the two-step process pursuant to 15A NCAC 02Q .0504. That modification will also be subjected to public and EPA review along with the modifications addressed specifically in this application. The review for permit no. T48 will be included as an attachment to this review.

Permit No.	Issue Date	Application No.	Application type
T48	12/21/2017	17D	TV-Sign-501(b)(2) Part I

Purpose of Application:

The purpose of this application is as follows (excerpt from permit application):

Arauco Panels is requesting to replace the 78.5 MMBtu/hr backup natural gas burner ES-02-C with two 35 mm Btu/hr heaters in its stead to increase reliability of the plant during periods where the primary energy system, a 205 MMBtu/hr wood fired heater, is down for maintenance. During periods where the wood-fired energy system is not operating, the MDF plant does not operate at full capacity and struggles with quality and reliability. Also, the burner configuration, originally designed by the site's previous owner Uniboard, has a potential to increase risk for fire because the configuration is not up to modern standards for wood products safety.

The new burners will be subject the Plywood and Composite Wood Products NESHAP (PCWP MACT DDDD) as they will directly fire the existing blow line MDF dryer. The burners ES -02-C and ES-02-A were deemed to not be subject to NSPS subpart Dc by the DAQ in 2011.

This application will be processed as a two-step significant modification pursuant to 15A NCAC 02Q .0504. *(The second step was addressed in the issuance of Permit No. T49.)*

Permit No.	Issue Date	Application No.	Application type
T47	08/30/2017	17A	PSD

Purpose of Application:

The purpose of this application is as follows (excerpt from permit application):

This Prevention of Significant Deterioration (PSD) application does not include the PB plant at the facility and addresses only the MDF plant. Best Available Control Technology (BACT) limits for the PB plant were established prior to the installation of the Photo-catalytic Gas Treatment (PGT) systems at Arauco, and the existing BACT limits for the PB plant are not affected by this modification.

Background and PSD Project

Arauco has used PGT systems to control pollutants from its PB and MDF plants. The PB plant included one PGT system (ID No. CD-PB- PGT), while the MDF plant used three PGT systems (ID Nos. CD02-2, CD14-2, and CD16-2) for pollutant control. The PGT systems were installed by Uniboard USA, LLC, a previous owner of the Moncure facility. The PGT units oxidize and thereby destroy emissions of volatile organic compounds (VOCs) and certain hazardous air pollutants (HAPs), including formaldehyde and methanol, using hydrogen peroxide and UV lighting systems. The PGT systems require significant quantities of proprietary ferrous sulfate and oxalic acid solutions for catalyzing the oxidation reaction. Further, the UV lighting systems are difficult to maintain and require frequent replacement due to the difficult operating environment. In addition to operational issues, the PGT

systems and the associated chemicals have resulted in safety issues at the facility, including fires and chemical exposure to employees.

On September 9, 2015, Arauco entered into Special Order by Consent (SOC) 2015-002 with the North Carolina Division of Air Quality (NCDAQ) to request removal of the PGT units and to address the resulting noncompliance with 40 CFR Part 63 Subpart DDDD, "National Emission Standards for Hazardous Air Pollutants (NESHAP) for Plywood and Composite Wood Products." The SOC became final on November 2, 2015. The SOC allowed Arauco to decommission the PGT systems due to underperformance and safety issues noted above. Arauco has previously accepted PSD avoidance limits for the MDF plant, and the SOC also addressed the possibility decommissioning the PGT systems in the MDF plant could result in an exceedance of the avoidance limit for VOCs. In the event the PSD avoidance limit for VOCs was exceeded, Paragraph II.A.ii of the SOC required the Permittee to submit a PSD application if deemed necessary by the NCDAQ. Per a letter dated October 17, 2016, NCDAQ deemed it necessary that Arauco submit a PSD permit application because VOC emissions from the MDF plant had exceeded the PSD avoidance limit from June through September 2016. (Note exceedances of the PSD avoidance limit have been ongoing ever since June 2016.) The PSD application was due within 120 days of receipt of the letter (i.e., by February 14, 2017).

Permit No.	Issue Date	Application No.	Application type
T46	07/31/2017	17C	TV-Sign-501(c)(2) Part I
<p>Purpose of Application: The purpose of this application is as follows (excerpt from permit application):</p> <p>The purpose of this application is to request a permit for a wastewater evaporator (WWE) that has already been constructed at the facility.</p> <p>The Permittee had previously requested an applicability determination for the WWE on August 5, 2016. The DAQ responded on September 23, 2016 stating:</p> <p style="padding-left: 40px;">The NCDAQ has reviewed your request and concluded that based on the limited information available the evaporator unit appears to have potential uncontrolled emissions of particulate matter greater than 5 tons per year and therefore does not qualify as an insignificant activity pursuant to 15A NCAC 02Q .0503(8).</p> <p>This application will be processed as the 1st step of the 2-step significant modification process as allowed pursuant to 15A NCAC 02Q .0504. <i>(The second step was addressed in the issuance of Permit No. T52.)</i></p>			

Permit No.	Issue Date	Application No.	Application type												
T45	07/31/2017	08D, 12C, 16A	TV-Renewal/Significant Modification												
<p>Purpose of Application: The purpose of this application is as follows (excerpt from permit application):</p> <table border="1"> <thead> <tr> <th>Task</th> <th>Description</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>The renewal of permit no. T34, which expired on July 31, 2009 (application no. 9800015.08D)</td> </tr> <tr> <td>2</td> <td>The Part II application for the Part I applications 1900015.07A, 08C and 09B that addressed the rebuilding and modifications to the MDF plant (application no. 9800015.12B) (this application was consolidated into 9800015.12C)</td> </tr> <tr> <td>3</td> <td>Compliance of the particle board plant with MACT DDDD (application no. 9800015.12C)</td> </tr> <tr> <td>4</td> <td>Compliance of the MDF plant with MACT DDDD (application no. 9800015.12A) (this application was consolidated into 9800015.12C)</td> </tr> <tr> <td>5</td> <td>Modifications to the MDF plant performed primarily for compliance with MACT DDDD (application no. 9800015.16A).</td> </tr> </tbody> </table>				Task	Description	1	The renewal of permit no. T34, which expired on July 31, 2009 (application no. 9800015.08D)	2	The Part II application for the Part I applications 1900015.07A, 08C and 09B that addressed the rebuilding and modifications to the MDF plant (application no. 9800015.12B) (this application was consolidated into 9800015.12C)	3	Compliance of the particle board plant with MACT DDDD (application no. 9800015.12C)	4	Compliance of the MDF plant with MACT DDDD (application no. 9800015.12A) (this application was consolidated into 9800015.12C)	5	Modifications to the MDF plant performed primarily for compliance with MACT DDDD (application no. 9800015.16A).
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VI. NSPS, NESHAPS, PSD, Attainment Status, 112(r), and CAM

NSPS

The changes addressed in this permit application do not affect the ability of the facility to comply with any existing NSPS applicable compliance requirements nor trigger any new requirements.

NESHAP/MACT

The facility is major source of HAP. The changes addressed in this permit application do not affect the ability of the facility to comply with any existing MACT applicable compliance requirements nor trigger any new requirements.

PSD

Chatham County is in attainment for all pollutants. See PSD Avoidance discussion in Section III and IV above. Chatham County has triggered increment tracking under PSD for PM₁₀, SO₂ and NO_x. This modification involves only changes to NO_x emissions. However, the nature of the modification, which is just a revision to emission factors, does not consume or expand increments for any pollutants. Any consideration of increment consumption or expansion was conducted during the review for Permit No. 03449T54 (Application No. 1900015.19D).

CAM

The modifications discussed in this application do not trigger any additional CAM review at this time. CAM will be addressed during the next permit renewal.

112r

The Permittee 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 thresholds in 112(r). This permit modification does not affect the 112(r) status of the facility.

NC Toxics

The modifications discussed in this application do not trigger any review under the state enforceable only toxics rules at 15A NCAC 02Q .0700 and 02D .1100.

VII. Compliance History

The facility was last inspected on February 02, 2022 by Jeff Harris of the Raleigh Regional Office (RRO). The following table shows the five-year violation history as provided in the February 2, 2022 inspection report.

Five Year Violation History:

<u>Date</u>	<u>Letter Type</u>	<u>Rule Violated</u>	<u>Violation Resolution Date</u>
11/09/2020	NOV	2D .0530 Prevention of Significant Deterioration	11/14/2020
06/05/2019	NOV/NRE	Part 63 - NESHAP/MACT Subpart DDDD Plywood and Composite Wood Products	07/01/2019
06/05/2019	NOV/NRE	2D .0530 Prevention of Significant Deterioration	07/01/2019
06/05/2019	NOV/NRE	Permit Permit Condition	07/01/2019
04/20/2017	NOV/NRE	2D .0521 Control of Visible Emissions	05/12/2017
04/20/2017	NOV/NRE	2Q .0317 Avoidance Conditions	05/12/2017
04/20/2017	NOV/NRE	2D .1111 Maximum Achievable Control Technology	05/12/2017
04/20/2017	NOV/NRE	2D .0530 Prevention of Significant Deterioration	05/12/2017
04/20/2017	NOV/NRE	2D .0512 Particulates from Wood Products Finishing Plants	05/12/2017

The inspection report also noted:

“Based on observations made during the inspection, the facility appears to be in compliance. It is recommended that an annual inspection be performed within the next 12 months.”

VIII. Changes Implemented in Revised Permit

Page No.	Section	Description of Changes
NA	Cover Letter	<ul style="list-style-type: none"> Updated permit revision numbers, issue and effective dates, etc.
4	1	<ul style="list-style-type: none"> Added a minor modification footnote to the sources and control device affected by this modification
45	2.2 B.3	<ul style="list-style-type: none"> Initial testing requirement at Section 2.2 B.3.b.ii of the existing permit was memorialized as having been completed on October 20 and 21, 2021. Revised parameters in Table 2.2 B.3 as follows: <ul style="list-style-type: none"> NOx uncontrolled emission factor revised from 0.791 to 0.61 lb/MMBtu NOx controlled emission factor revised from 0.33 to 0.27 lb/MMBtu Minimum urea/water injection rate from 0.24 to 0.38 gpm
50	2.3	<ul style="list-style-type: none"> Moved permit shield language from Section 2.4 to Section 2.3 of the permit
51	3	<ul style="list-style-type: none"> Moved insignificant activities list from Section 2.3 to Section 3 of permit
52	4	<ul style="list-style-type: none"> Moved General Conditions form Section 3 to Section 4 of the permit

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

The application is being processed pursuant to 15 A NCAC 02Q .0515 Minor Modification Procedures.” As such, no public notice procedures apply.

X. PE Seal

Pursuant to 15A NCAC 02Q .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 15A NCAC 02Q .0103 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 PE Seal was not required for this permitting action since as it did not involve the modification of an existing source hat required any design, any substantial determination of applicability and appropriateness, or the determination and interpretation of performance of air pollution capture and control systems.

XI. Zoning

A zoning consistency determination per 02Q .0304(b) was not required for this permitting action as it is not a new facility or the expansion of an existing facility.

XII. Recommendations

This permit application has been reviewed by NC DAQ to determine compliance with all procedures and requirements. NC DAQ has determined that this facility appears to be complying with all applicable requirements.

The Raleigh Regional Office has received a copy of this permit and had no comments.

The DAQ recommends issuance of Permit No. 03449T57.