NORTH CAROLINA DIVISION OF AIR QUALITY

Application Review

Issue Date:

Region: Raleigh Regional Office
County: Chatham
NC Facility ID: 1900015
Inspector's Name: Matthew Mahler
Date of Last Inspection: 03/28/2019
Compliance Code: 3 / Compliance - inspection

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

Contact Data

Facility Contact	Authorized Contact	Technical Contact
Yvonne Couts Environmental Manager (919) 545-5848 985 Corinth Road Moncure, NC 27559	Jeff McMillian Plant Manager (919) 545-5865 985 Corinth Road Moncure, NC 27559	Yvonne Couts Environmental Manager (919) 545-5848 985 Corinth Road Moncure, NC 27559

Application Data

Application Number: 1900015.18B, .19C
Date Received: 08/14/2018, 10/17/2018
Application Type: Modification
Application Schedule: TV-Significant

Existing Permit Data

Existing Permit Number: 03449/T51
Existing Permit Issue Date: 03/06/2019
Existing Permit Expiration Date: 06/30/2021

Total Actual emissions in TONS/YEAR:

CY	SO2	NOX	VOC	CO	PM10	Total HAP	Largest HAP
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)]
2013	12.57	292.92	503.89	454.06	136.96	79.08	32.03 [Formaldehyde]

Review Engineer: Joseph Voelker

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

Comments / Recommendations:
Issue 03449/T52
Permit Issue Date:
Permit Expiration Date:

I. Introduction and Purpose of Application

Arauco Panels USA LLC (formerly UNIBOARD 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 combined application is:

Application No. 18B

- 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

This combined application will be processed as a significant modification pursuant to 15A NCAC 02Q .0516, "Significant Permit Modification."

II. Chronology

Date	Description
August 14, 2018	An application was received and assigned application no. **1900015.18B**. It was submitted as a minor modification pursuant to 15A NCAC 02Q .0515.
September 24, 2018	An email was sent stating that the application was incomplete as it did not include the monitoring parameters.
October 4, 2018	The minor modification completeness letter was sent to the Permittee.
December 28, 2018	An addendum to the application was received to address emission factors for the dump cyclone.
January 9, 2019	Memo was issued from the stationary source Compliance Branch (SSCB) approving the results of the Formaldehyde and Methanol Emissions Testing of Medium Density Fiberboard Process (MDF) Biofilter CD-18 conducted on November 8, 2018.
February 25, 2019	An application was received and assigned application no. **1900015.19A**. The application was to revise the name of the facility from Arauco Panels USA LLC to Arauco North America, Inc.
March 6, 2019	Permit No. T51 issued in response to application no. **1900015.19A**.
October 1, 2019	A video of the refiner dump process was sent via email support the supposition that the PM emissions from the process are minimal.
October 17, 2019	An addendum to application **1900015.18B** was received. It was assigned application no. **1900015.19C**. See discussion in Section III.
October 24, 2019	Application **1900015.18B** was consolidated into application **1900015.19C**.
October 28, 2019	Draft permit sent to Permittee for review
October 29, 2019	Comments received by the Permittee
MM/DD/2019	~~Public Notice published on NCDENR DAQ website; concurrent public/EPA comment period begins~~
MM/DD/2019	~~Public comment period ends. No comments received.~~

III. Modification Description

A. MACT DDDD compliance

As stated in Section I above, this application was submitted to revise the air permit to include monitoring parameters by which the Permittee will comply with MACT Subpart DDDD (4D). This permit application was submitted concurrently with the 4D notifications of compliance status (NOCS). Thus, this combined submittal satisfied the notification requirements at Section 2.2 A.1.ii.iii through vi.

See Section IV below for discussion.

B. Refiner Abort Cyclone Emission Factor

In Permit No. T43 issued on 01/22/2014, emission factors were explicitly incorporated in the PSD Avoidance condition at Section 2.2 B.1. The condition contains a table, Table 2.2 B.1, which contains source specific emission factors for PM10, PM2.5 and NOx for purposes of calculating emissions. These factors were incorporated into the TV permit by means of the TV significant modification process pursuant to 15A NCAC 02Q .0516. These emission factors remained uncontroversial until the draft permit for a recent PSD permit, Permit No. T51, issued 11/21/2018 was undergoing public notice and review procedures.

During the public notice period, the Raleigh Regional Office (RRO) made a comment concerning the refiner abort cyclone emission factors' use in a new PSD applicability condition, the 02D .0530(u) condition at Section 2.1 C.6. An excerpt from the final determination document for that permit is reproduced below.

> *The concern raised was that the projected actual emissions estimate for the whole project relied in part on a questionable emission factor. The refiner abort cyclone (ID No. ES-01) is a PM-emitting source whose emissions could increase because of the expected increase in throughput as a result of the project. The emission factor used is an emission factor provided by the Oregon Department of Environmental Quality (Oregon DEQ). The derivation of this emission factor is considered questionable by the NCDEQ as the factor has been proposed in previous permitting actions but no basis for its derivation could ever be obtained. The concern in this situation can be summarized as that the use of this emission factor may underestimate emissions from the project.*

In short, the final permit was ultimately issued without relying on the emission factor by expanding the monitoring and recordkeeping requirements for the 02D .0530(u) permit condition 2.1 C.6.

However, the question remained regarding the use of the emission actor in the existing PSD avoidance condition at Section 2.2. B.1. To address the RROs concerns, the DAQ requested the Permittee to supply additional information to justify or revise the emission factor for the refiner abort cyclone specifically. The Permittee supplied additional information and the NCDAQ also found additional information, which will be discussed below.

Discussion

Refiner Abort Process

The Permittee provided the following a summary of the refiner abort process.

> *When operating under normal conditions, chips brought in from outside vendors are conveyed into a roller bed screen to screen out oversized material. Once screened, 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 (EP-01), which purges unresinated wood from the process instead of sending it to the dryers. This unresinated fiber consists of a high moisture content and is mechanically removed from the process.*

The permittee also supplied the rationale behind the existing emission factor contained in the current permit.

> *The emission factor in the current permit is based on green sawdust handling through a high efficiency cyclone. This factor was chosen due to the similarity of green sawdust to the fiber sent to the abort cyclone, and it was considered conservative because it assumes pneumatic transfer and Arauco's process is not.*

Upon further discussions with the Permittee, in addition to seeing pictures of the operation, an operation which is common at wood products manufacturing facilities, the material that is ejected is effectively a mass of wood fiber that is completely saturated with water. When the material is ejected from the process to the cyclone, it is essentially a depressurization process, using the cyclone to provide for a controlled ejection. The depressurized gas (i.e. steam) exits the top of the cyclone and the material is dropped from the bottom of the cyclone into a wet pile of wood fiber. Thus, this is not a typical pneumatic handling of woodwaste. The material is not, vacuumed, captured, etc. by an air stream, transported to a cyclone and then separated from the airstream by inertial means.

The Permittee had been unable to find any air emission factors specific to this process. Although the abort process appears to occur for about 15 hours a month, the duration and nature of each abort event does not lend itself to EPA reference method testing. The Permittee has stated in an email on September 3, 2019 that the average duration of an abort event is on the order of 9 minutes.

Current Oregon DEQ derived emission factor

The emission factors for the refiner abort cyclone are included in the current permit as follows:

Emission Point	Description	PM-10		PM-2.5		NOx	
		EF	Units	EF	Units	EF	Units
EP-01	Refiner Abort Cyclone	3.52	lb/hr	3.52	lb/hr	NA	

The 3.52 lb/hr is derived from the Oregon DEQ Emission Factors for Wood Products document (AQ-EF02). The Permittee, as it stated above, used the factor for green sawdust controlled by a high efficiency cyclone. This factor is **0.2 lb PM/bone dry ton (BDT).** The permittee estimates than the material dumped by the abort process is 17.7 BDT per hour. The Permittee then assumed 100% of the PM was PM2.5 and by extension PM10 for conservatism. Thus 0.2 * 17.7 = 3.52 lb/hr PM10/PM2.5.

In short, the Permittee initially tried to conservatively estimate the PM10/2.5 emissions from a saturated wet wood depressurization process by using an emission factor from a high efficiency clone controlled green sawdust.

Recall the comment made by the Raleigh Reginal Office of the DAQ was as follows:

> *The derivation of this emission factor is considered questionable by the NCDEQ as the factor has been proposed in previous permitting actions but no basis for its derivation could ever be obtained. The concern in this situation can be summarized as that the use of this emission factor may underestimate emissions from the project.*

Typically, woodworking emission factors in NC are obtained from a DAQ managed spreadsheet located at the link below.

https://deq.nc.gov/about/divisions/air-quality/air-quality-permits/application-forms-instructions/application-forms-air-quality-permit-construct-operate-non-title-v-title-v-facilities/spreadsheets

However, the spreadsheet does not cover the refiner operation explicitly. The spreadsheet is the product of combining AP-42 data, specific source test data and assumed cyclone efficiencies.

At the time of the original permitting action (Permit No. T41) in which the factor was incorporated into the permit, the common sense conclusion, which still seems valid, is that the use of the DAQ spreadsheet to estimate the emissions from this process was not justified. However, the question remains: is the magnitude of the emissions resulting from the use of the Oregon factor reasonable?

This Permit engineer undertook a search for the origins of the "Oregon emission factor". The factor is still being utilized by the Oregon DEQ and is provided online in the following document:

https://www.oregon.gov/deq/FilterPermitsDocs/AQ-EF02.pdf

The data in this document has the following disclaimer.

> *The emissions factors listed in this table should only be used when better information (i.e., source test data) is not available*

The 0.2 lb/bone dry ton is shown in the document as follows:

Process Equipment	Description	Throughput Units	Pounds of Pollutant per Throughput Unit[1]				
			PM[2]	SO_2	NO_x	CO	VOC
Cyclone- Dry and Green chips, Shavings, Hogged Fuel/Bark, Green Sawdust	Medium Efficiency	Bone dry tons	0.5	NA	NA	NA	NA
	High Efficiency	Bone dry tons	0.2	NA	NA	NA	NA
	Baghouse control	Bone dry tons	0.001	NA	NA	NA	NA
Cyclone - Sanderdust	High Efficiency	Bone dry tons	2.0	NA	NA	NA	NA
	Baghouse control	Bone dry tons	0.04	NA	NA	NA	NA

Oregon also provides an additional document that allows for the estimation of PM10 and PM2.5.

https://www.oregon.gov/deq/FilterPermitsDocs/AQ-EF03.pdf

Type of Control	PM_{10} Fraction[1] of Total Particulate Matter (PM)[2]				
	Boilers	Veneer Dryers	Particle Dryers	Press Vents	Cyclones and Process Equipment
Uncontrolled	50	100	75	85	
Bag filter system					99.5
Cyclone – high efficiency					95
Cyclone – medium efficiency					85

Type of Control	$PM_{2.5}$ Fraction[3] of Total Particulate Matter (PM)[4]				
	Boilers	Veneer Dryers	Particle Dryers	Press Vents	Cyclones and Process Equipment
Uncontrolled		100	75	85	
Bag filter system	99				99
Cyclone – high efficiency					80
Cyclone – medium efficiency					50

So, if one assumes the use of these factors is valid, estimates for PM, PM10, PM2.5 would be as follows:

PM –		= 0.2 lb/BDT
PM10 –	0.95 * 0.2	= 0.19 lb BDT
PM2.5 –	0.8*0.2	= 0.16 lb/BDT

Oregon DEQ Emission factor utilized by Region 10 EPA

This engineer also discovered that EPA uses numerous Oregon DEO emission factors, including the one in question from the AQ-02 and -03 documents, when estimating PTE from wood working operations located in Pacific Northwest Indian Territory for which no better data exists. See the following document:

https://www.epa.gov/sites/production/files/2016-09/documents/spmpteef_memo.pdf

In that document the following table can be found:

EF Reference No.	Emissions Generating Activity[1]	PM[2] EF	PM_{10} % of PM	PM_{10} EF	$PM_{2.5}$ % of PM	$PM_{2.5}$ EF	Units
1, 2, 3, 4	Log Bucking[3]	0.035	50	0.0175	25	0.00875	lb/ton log
1, 2, 3, 5	Log Debarking[3]	0.024	50	0.012	25	0.006	lb/ton log
1, 2, 3, 6	Sawing[3]	0.350	50	0.175	25	0.0875	lb/ton log
1, 3, 7	Lumber Drying - Resinous Softwood Species[4]	0.02	100	0.02	100	0.02	lb/mbf
1, 3, 7	Lumber Drying - Non-Resinous Softwood Species[5]	0.05	100	0.05	100	0.05	lb/mbf
1, 2, 3, 8	"Drop" of "wet" material[5] from one surface to another including, but not limited to, (a) each mechanical conveyance drop between point of generation and storage bin (but not including bin unless open to atmosphere) (b) loadout from storage bin into a truck bed or railcar and (c) drop onto a pile. Apply EF to each "drop."	0.00075	N/A	0.00035	N/A	0.00005	lb/bdt material
1, 2, 3, 8	"Drop" of "dry" material[5] from one surface to another including, but not limited to, (a) each mechanical conveyance drop between point of generation and storage bin (but not including bin unless open to atmosphere) (b) loadout from storage bin into a truck bed or railcar and (c) drop onto a pile. Apply EF to each "drop."	0.0015	N/A	0.0007	N/A	0.0001	lb/bdt material
1, 3, 9	Pneumatically convey material[6] through medium efficiency cyclone to bin	0.5	85	0.425	50	0.25	lb/bdt material
1, 3, 9	Pneumatically convey material[6] through high efficiency cyclone to bin	0.2	95	0.19	80	0.16	lb/bdt material
1, 3, 9	Pneumatically convey material[6] through cyclone to bin. Exhaust routed through baghouse.	0.001	99.5	0.000995	99	0.00099	lb/bdt material
1, 3, 9	Pneumatically convey material[6] into target box	0.1	85	0.085	50	0.05	lb/bdt material
1, 2, 10	Wind Erosion of Pile	0.38	50	0.19	25	0.095	ton/acre-yr
1, 2, 11	Paved Roads	Emission factors based upon site-specific parameters.					lb/VMT
1, 2, 12	Unpaved Roads	Emission factors based upon site-specific parameters.					lb/VMT

Note that this table includes an AP-42 methodology for estimating PM emissions (see full document for the reference) for the dropping of wet and dry material. Note that for wet and dry material (again see full document for assumptions) the emission factors for PM range from 0.00075 to 0.0015 lb/BDT and proportionally less for PM10 and PM2.5.
Thus, if one were to estimate the emissions of the abort process (the drop of the material from the bottom of the cyclone onto a pile) using this table, the PM (and PM10 and PM2.5) emissions would be calculated to be on the order of 3 orders of magnitude less than by the use of the "Oregon" emission factor, that is the factor contained in the current air permit.

This fact will be useful in the WebFIRE discussion below.

WebFIRE Emission Factor

During this application to revisit the emission factor, the Permittee utilized the EPA WebFIRE database. In the database the Permittee discovered an emission factor (database factor number20845) based on….

> *(from the application)*
> … fugitive losses from sawdust handling operations, mainly drop points from loading and unloading sawdust into and out of trucks, which generally occurs in open air without controls. The proposed new emission factor for the abort cyclone exhaust is listed in the EPA WebFIRE database as a PM10 factor that assumes 36% of TSP is PM10. The EPA's PM Augmentation tool lists the ratio for this source type as 35%. The resulting emission factor, as published in the EPA WebFIRE database is 0.36 lb/ton of sawdust handled. Arauco proposes to convert the factor to a lb/hr basis, assuming 17.6 tons of reject material per hour, for a resulting factor of 6.33 lb/hr PM10.

Thus, the permittee is suggesting estimating PM emissions by comparing the abort process which drops the material from the bottom of the cyclone onto a pile to the dropping of saw dust onto a pile. The resulting emission factor is for PM10 which is estimated to be 0.36 lb/BDT.

Conclusion

Given that:

- no specific emissions data exist for this operation;
- this operation is used on a relatively infrequent basis; and
- using the reasonably available surrogate emissions estimation data found during this emission factor revisiting exercise yields emissions estimations of the same order of magnitude or lower than the emission factor utilized in the current permit;

the emissions factors for PM10 and PM2.5 in the existing PSD avoidance condition at Section 2.2. B.1 will remain unchanged.

C. Revise MACT 5D boiler tune requirements for sources ES-18, -19 and -20

On October 17, 2019 an application addendum was received requesting the following:

Arauco submitted permit application 1900015.18A in June 2018. Within this permit application was the request to replace the natural gas burners ES-18, 19, and 20 from 26 to 30.4 MMBtu/hr units. Permit no 03449T50 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 is submitting this modification to have the tune-up frequency language in section 2.1 D.5 revised from every year to every five years pursuant to 63.7540(12).

This engineer agrees with this request. The permit will be revised to reflect tune ups are required every five years.

D. Add Routine control device maintenance exemption as allowed under MACT 4D

On October 17, 2019 an application addendum was received requesting the following:

Arauco would like to request Routine Control Device Maintenance exemption (RCDME) per 40 CFR 63.2251 for two activities related to maintaining the biofilter: 1) replacing, unplugging, or repairing spray nozzles over the media beds and 2) replacing or repairing media in the biofilter.

63.2251(a) requires the Permittee to formally request and justify the need for a RCDME for the biofilter. To this engineer's satisfaction the Permittee has adequately justified the need for the RCDME. The details of the request and justification are included in the letter dated September 29, 2019 and are included as Attachment A of this Review document.

Since the biofilter will control, among other process units, a pressurized refiner and tube dryer, the routine control device maintenance exemption must not exceed 3 percent of annual operating uptime for each process unit controlled pursuant to 63.2251(b)(3).

Pursuant to 63.2251(c), the request for the routine control device maintenance exemption, if approved by the EPA Administrator, must be incorporated by reference in and attached to the affected source's title V permit. Explicit mention will be made in the appropriate permit condition to the September 29, 2019 letter. A copy of this letter will be included as ATTACHMENT to the issued TV permit.

E. Satisfy permit application submittal requirement of Section 2.2 B.3

In application 1900015.l8A, submitted June 13, 2018, Arauco proposed several projects that will increase the overall throughput capacity of the facility including: replacing the natural gas burners, introducing a chip steaming system, implementing a steam wand, upgrades to the mat scalping system, improvements to the press outfeed, and upgrades to the saw system.

That permit application was processed pursuant to 15A NCAC 02D .0530, "Prevention of Signification Deterioration" and for Title V purposes consistent with 15A NCAC 02Q .0501(b)(2) and 02Q .0504, "Option for Obtaining Construction and Operation Permit." Permit No. T50 was issued on November 21, 2018 as a result and included the following requirement at Section 2.2.B.3:

> Pursuant to 15A NCAC 02Q .0501(b)(2), for completion of the two-step significant modification process initiated by application no. 1900015.18A, the Permittee shall file an amended application following the procedures of Section 15A NCAC 02Q .0500 no later than 12 months after issuance of permit no. 03449T50.

On October 17, 2019 an application addendum was received requesting the following the addendum serve as the Title V application required by Section 2.2 B.3 of the current permit.

The request states:
"Arauco has implemented the natural gas burners, chip steaming system, steam wand, and mat scalping system as originally described in the application. The press outfeed and finishing saw upgrades will be implemented as described in the application when time and resources allow for project completion."

At this time the modification addressed in application no. 18A will be subjected to the Title V Public Notice and EPA Review procedures. A copy of the preliminary and final determination for permit no. T50 will also be included as ATTACHMENT C to this review. With the exception of the following two issues no additional discussion here is necessary.

i. Biofilter performance issue and 15A NCAC 02D. 0530: PREVENTION OF SIGNIFICANT DETERIORATION

The current permit requires for PSD at Section 2.2 B.2 the operation of the biofilter as BACT for a number of sources. Section 2.1 B.2.c required performance testing to be completed within 180 days after the issuance of permit no. 03449T50 unless an alternate date is approved by the DAQ.

The Permittee, because of operational problems with the biofilter, has not satisfied this testing requirement. In addition, the Permittee has ceased to operate the biofilter as of May 8, 2019. The Permittee is therefore operating out of compliance with various aspects of the PSD permit conditions at Section 2.2 B.2. The Permittee has been subjected to enforcement action and has entered into a Special Order of Consent (SOC 2019-001) with the DAQ (actually the Environmental Management Commission or EMC) on September 5, 2019. The SOC is included as an ATTACHMENT to this review document. In summary however, the permittee is required to effect repairs on the biofilter, conduct performance testing and submit the test report by June 28, 2020.

In summary the Permittee has not met the initial testing requirements used to demonstrate the performance of the biofilter as BACT and for the establishment of biofilter monitoring parameters. The ramifications of non-compliance with these requirements are covered under the SOC. No changes will be made to the PSD permit condition. Thus, upon issuance of the Permit No. T52, the Permittee will certify non-compliance with the Title V permit requirements as necessary until those permit requirements are satisfied.

ii. Biofilter performance issue and 15A NCAC 02D. 1111: MAXIMUM ACHIEVABLE CONTROL TECHNOLOGY

The current permit at Section 2.2 A.1 addresses the requirements of 40 CFR 63, Subpart DDDD. "National Emission Standards for Hazardous Air Pollutants: Plywood and Composite Wood Products" and Subpart A "General Provisions."

The Permittee has chosen to comply with MACT for a number of sources at the MDF mill by the use of the biofilter. As discussed in Section III.B and Section IV in this review, the Permittee had satisfied all initial performance testing requirements, established biofilter operating parameters, and met its notification and permit application submittal requirements as required

under MACT at Section 2.2 A.1. The MACT DDDD permit condition at Section 2.2 A.1 has therefore been revised to reflect that it has met all of these requirements.

However, as discussed above in Section III.E.i of this review, the Permittee had issues with the biofilter after these requirements were met and has shut the biofilter down. Therefore, the Permittee is operating out of compliance with some aspects of MACT DDDD at the MDF plant. As with the PSD requirements at Section 2.2 B.2, the Permittee has been subjected to enforcement action and has entered into a Special Order of Consent (SOC 2019-001).

The ramifications of non-compliance with the requirements under MACT DDDD are covered under the SOC. Upon issuance of the Permit No. T52, the Permittee will certify non-compliance with the Title V permit requirements as necessary until those permit requirements are satisfied.

Given the anticipated changes to the biofilter, the permit will be revised to clarify that a new biofilter performance test will be required under MACT DDDD in addition to the testing to be conducted to satisfy the PSD requirements pursuant to the SOC.

The following paragraph will be added at Section 2.2 A.1 m.

i. The Permittee shall test the biofilter, reestablish the monitoring parameters at Section 2.2 A.1.h and submit the test results within 180 days after completion of the remedial work as described in the Special Order of Consent 2019-001.

All other changes to Section 2.2 A.1 are addressed in Section IV of this review document.

F. Satisfy permit application submittal requirement of Section 2.2 B.3

Arauco submitted a letter to DEQ stating the emission source EVAP-1 was no longer in operation on July 13, 2018. (Attachment B of the permit addendum received by the DAQ on October 17, 2019. As of October 2018, the evaporator was no longer located on Arauco's site. Arauco is submitting this permit application to have all recordkeeping and reporting requirements and any language associated with EVAP-1 in Section 2.1.G be removed from the Title V air quality permit.

This is a straightforward request. The permit will be revised accordingly.

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 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."

This regulation is addressed in Permit Condition 2.2 A.1. The facility is comprised of two distinct wood products manufacturing lines, the particleboard plant (PB) and the medium density fiberboard plant (MDF).

First some background to put the current permitting action into context. The following excerpt is from permit application no. 1900015.17B, which resulted in the issuance of permit no T49.

> 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.

Compliance by the MDF plant had been previously addressed in application no. 16A which resulted in the issuance of permit no. T45.

Permit no. T49, issued 02/28/2018 therefore contained notification and performance testing requirements for the MACT DDDD for both plants.

Each plant will be discussed separately.

<u>MDF plant</u>

The MDF plant intends on demonstrating compliance with MACT DDDD by controlling the main sources of HAP, which are listed in Table 2.2 A.1 of the permit, by a biofilter (ID No. CD18).

Section 2.1 A.1 g. allows for multiple ways to demonstrate HAP emissions reductions. The facility chose to reduce formaldehyde emissions by 90 percent and demonstrated this in a performance test conducted on <u>June 13, 2018</u> and approved by the SSCB in a memo on <u>August 8, 2018.</u> During the testing the Permittee was also required to establish a biofilter operating temperature range. A review of the test report shows that, consistent with the Rule the operating temperature range was 141 to 145 ^{o}F.

On <u>July 24, 2018</u> the facility demonstrated that the emissions from the MDF press (ID No. Es-16) were being captured by a wood products enclosure as defined in § 63.2292. The results of this test were approved in a memo issued by the SSSB on <u>September 24, 2018</u>.

As allowed by the rule, the facility retested the biofilter for purposes of widening the operating temperature range of the biofilter. The facility again chose to reduce formaldehyde emissions by 90 percent and demonstrated this in a performance test conducted on <u>November 8, 2018</u> and approved by the SSCB in a memo on <u>January 9, 2019</u>. A review of the test report shows that, consistent with the Rule, the operating temperature range was 132 to 145 ^{o}F.

As required by the rule and permit condition 2.2 A.1 ii.iii, the Permittee submitted a Notification of Compliance status for the biofilter dated August 10, 2018 and received at DAQ on August 13, 2018. that addressed the initial compliance requirements discussed above. Included in the submittal was a minor modification to incorporate monitoring parameters for the biofilter. The permittee requested that the biofilter operating range be incorporated into the permit as follows:

The Permittee shall maintain the 24-hour block biofilter bed temperature within the following range as established according to condition n. [§63.2240]

i. minimum biofilter bed temperature: **132**

ii. maximum biofilter bed temperature: **145 ºF**

This range is a composite of the temperatures achieved during the two performance tests discussed above. This range is being established consistent with Section 2.2 A.1.p.iii. which states:

For the biofilter (ID No. CD18), the Permittee:

…

iii. may expand the biofilter bed temperature operating range according to §63.2262 and §63.2267.

The permit will be revised to remove these initial notification and application submittal requirements.

PB plant

At the PB plant the Permittee will comply with 4D by operating the dryers (ID Nos. 1420 and 1430) pursuant to condition 2.2. A.1.j which states:

The dryers (ID Nos. 1420, and 1430) shall be operated such that:

i. the process furnish will have a 24-hour block average inlet moisture content of less than or equal to 30 percent (by weight, dry basis); and

ii. the 24-hour block average inlet dryer temperature is less than or equal to 600 °F.

[§63.2241]

And the press (ID No. DEF-210) pursuant to section 2.2 A.1.k which states:

The press (ID No. DEF-210) shall meet the production-based compliance option by emitting less than 0.30 lb of total HAP per thousand square feet of board, ¾" basis. [§63.2240]

An additional requirement for the press is the establishment of an operating parameter pursuant to section 2.2. A.1.l which states:

For the press (ID No. DEF-210), the Permittee has chosen the methanol and formaldehyde content in the resin as the process unit controlling parameter. The Permittee shall maintain the methanol and formaldehyde content of the resins used to levels below those used during the initial compliance demonstration as shown below. The Permittee shall determine the methanol and formaldehyde resin levels based on vendor supplied data on a per shipment basis. These values do not apply during subsequent performance testing. [§63.2262(n)]

HAP	*Resin content limit (% by weight)*
Sum of Methanol and Formaldehyde	*TBD*

On June 12, 2018 for the PB press (DEF-210) the facility demonstrated compliance with the emission limit in Section 2.2.A.1.k. The results were 0.196 lb/ total HAP per thousand square feet of board, ¾" basis and was approved by the SSCB in a memo dated September 24, 2018.

On July 24, 2018 the facility demonstrated that the emissions from the PB press (ID No. DEF-210 were being captured by a wood products enclosure as defined in § 63.2292. The results of this test were approved in a memo issued by the SSSB on September 24, 2018.

As required by the rule and permit condition 2.2 A.1 ii,.iv and v, the Permittee submitted a Notification of Compliance Status for the PB plant press and dryers dated August 10, 2018 and received at DAQ on August 13, 2018. that addressed the initial compliance requirements discussed above. Included in the submittal was a minor modification to incorporate monitoring parameters for the PB press. The permittee requested that the resin HAP limit be incorporated into the permit as follows:

HAP	***Resin content limit (% by weight)***

Sum of Methanol and Formaldehyde	***0.3***

The NOCS also included the following statement, consistent with Section 2.2 A.1.r and §63.2263 which show that the dryers meet the definition of "dry rotary dryer" as defined in § 63.2292.

Dry Dryer

Source	Max Moisture Content (%)	Max Temperature (°F)
PB Dryer ID No. 1420	30	535
PB Dryer ID No. 1430	29	517

The permit will be revised to remove these initial notification and application submittal requirements.

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

CAM
This modification will not result in an increase in any pollutants. CAM does not apply to this modification.

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 not result in an increase in any toxic air pollutants. Toxics review does not apply to this modification.

VI. Compliance History

The most recent compliance inspection was conducted on March 26, 2019 and the facility appeared to be in compliance with all applicable air quality requirements.

On May 20, 2019 the DAQ sent a letter to the facility memorializing the completion of SOC 2015-002 for violations related to MACT DDDD.

The following is the five-year compliance history for Arauco.

- A NOV was issued on October 23, 2015 for shut down of the PGT systems at the facility on September 10, 2015. With the shutdown of these systems, Arauco was in violation of 40 CFR Part 63, Subpart DDDD, "NESHAP for Plywood and Composite Wood Products." The Permittee has entered into SOC 2015-002 to address these violations.

- A NOV/NRE was issued on October 12, 2016 for violations observed during the May 2016 compliance inspection as well as numerous other violations, including the following:
  - A venturi scrubber (ID No. CD14) at the facility experienced periods of time when pressure drop readings and recirculating liquid flow rate levels fell below the limits stipulated in Section 2.1 C.1.f. of Air Permit No. 03449T45.
  - Visible emissions from the medium density fiberboard facility operations were logged as above normal for 25 times during the period of June 19, 2015 to February 4, 2016 with no subsequent follow up actions in violation of Section 2.1 C.2.c. of Air Permit No. 03449T45.
  - The Permittee is required to conduct annual internal inspections on the PB plant bagfilters in accordance with Section 2.1 E.2.c. Records/reports indicated that bagfilters (ID Nos. CD-3577, CD-3585, CD-3595, and CD-3577) did not receive an annual inspection for calendar year 2015.
  - Visible emissions from the PB mill operations were logged as above normal for 12 times during the period of October 2, 2015 to February 12, 2016 with no subsequent follow up actions in violation of Section 2.1 E.5.c. of Air Permit No. 03449T45.
  - Section 2.2 B.1.c. of the permit requires that 45% urea be injected into the Energy System (ID No. ES-02-A) at a minimum rate of 0.24 gallons per minute. The urea-injection rate monitoring records indicated that between November 6, 2015 and May 23, 2016, there were 335 three-hour block averages that fell below the minimum level.
  - The above violations were not noted in the original second half 2015 semiannual report or the 2015 Annual Compliance Certification.

  The NCDAQ intends to assess a CPA to address these violations.

VII. Changes Implemented in Revised Permit

Existing Condition No.	**New Condition No.**	**Changes**
Cover Letter	Same	• Updated permit revision numbers, issue and effective dates, etc.
Permit, page 1	Same	• Revised dates, permit numbers, etc.
Section 1	Same	• Removed reference to wastewater evaporator EVAP-1. • Removed application submittal requirement footnote for EVAP-1 • Removed application submittal requirement footnote for MDF plant 02Q .0501(b)(2) modification. The current application satisfies this requirement. •
2.1 D.5	same	• Revised the MACT 5D condition to reflect: ▪ 5 year tune up and reporting frequency allowed under the rule for the use of oxygen trim systems ▪ Renumbered condition and made other minor corrections to make consistent with current DAQ permitting standards.
2.1 G	2.1 G Reserved	• Removed all requirements for the wastewater evaporator EVAP-1. The source has been removed from the site.
2.2 A.1	same	**MACT DDDD condition**
h.	same	• Added minimum and maximum biofilter temperatures of 132 ºF and 145 ºF, respectively.
l.	same	• Added the monitoring parameter value of 0.3% established during the last performance test • Broke the paragraph in two paragraphs i and ii. • Added language in paragraph ii consistent with current permitting policy to highlight how the monitoring parameter may be subsequently revised.
NA	m.i	The following paragraph will be added at Section 2.2 A.1 m. i. The Permittee shall test the biofilter, reestablish the monitoring parameters at Section 2.2 A.1.h and submit the test results within 180 days after completion of the remedial work as described in the Special Order of Consent 2019-001.
r and s.	r and s. RESERVED	• Removed initial testing requirements as these tests have been conducted. Condition will remain as RESERVED to avoid renumbering of permit condition
u.		• Renumbered subparagraphs to accommodate the addition of u.iv.
NA	u.iv.	• Added the following language to be consistent with rule: To the extent practical, startup and shutdown of emission control systems must be scheduled during times when process equipment is also shut down. [40 CFR 63.2251€]
v.	same	• Added a routine control device maintenance exemption for the biofilter as requested and described in letter dated September 26, 2019
aa.v	same	• Revised to read: "associated records for sections 2.2 A.1.u <u>through y"</u>
NA	aa.vi.	• Added the following recordkeeping condition for the resin content at the PB plant: "associated records for sections 2.2 A.1.l"
ii.iii through vi.	NA	• Removed these conditions as the Permittee has met these notification requirements.
2.2 B.3	NA	• 02Q .0504 [i.e., 02Q .0501(b)(2)] application submittal requirement removed. The current application satisfied this requirement.

Existing Condition No.	**New Condition No.**	**Changes**
NA	ATTACHMENT B	• As required by MACT DDDD, the request letter for the biofilter RCDME is included as an attachment to the TV permit
NA	ATTACHMENT C	• SOC 2019-001 has been included as an attachment to the permit

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

A notice of the DRAFT Title V Permit shall be made pursuant to 15A NCAC 02Q .0521. The notice will provide for a 30-day comment period, with an opportunity for a public hearing. Consistent with 15A NCAC 02Q .0525, the EPA will have a concurrent 45-day review period. Copies of the public notice shall be sent to persons on the Title V mailing list and EPA. Pursuant to 15A NCAC 02Q .0522, a copy of each permit application, each proposed permit and each final permit shall be provided to EPA. Also, pursuant to 02Q .0522, a notice of the DRAFT Title V Permit shall be provided to each affected State at or before the time notice provided to the public under 02Q .0521 above.

IX. Recommendations

~~It is recommended that permit no. **03449T52** be issued.~~

Attachment A
Request for RCDME
(Routine Control Device Maintenance Exemption)
pursuant to MACT DDDD
Dated September 26, 2019

985 Corinth Road
Moncure, North Carolina 27559
Tel: 919-642-6600
Toll Free: 855-427-2826
Fax: 919-545-5822

Certified Mail 7018 2290 0001 4576 3566
Return Receipt Requested

September 26, 2019

Received
SEP 30 2019
Air Permits Section

William Willets
NCDEQ – Division of Air Quality
217 West Jones Street
1641 Mail Service Center
Raleigh, NC 27699-1641

Subject: MACT DDDD Monitoring Permit Application Amendment
Facility ID No. 1900015/Permit No. 03449T51
Arauco North America, Inc.
Moncure, Chatham County, North Carolina

Dear Mr. Willets:

Arauco North America, Inc. (Arauco) is submitting this application addendum to modify the tune-up frequency for ES-18, 19, and 20, remove section 2.1.G language pertaining to the EVAP-1, satisfy the part 2 application required for a significant modification, and incorporate a routine control device maintenance exemption for CD-18. This application is a modification to the permit application submitted August 14, 2018 which included the necessary fees.

Arauco submitted permit application 1900015.18A June 2018 and received permit 03449T50 November 21, 2018. Within this permit application was the request to replace the natural gas burners ES-18, 19, and 20 at MDF from 26 to 30.4 MMBtu/hr units; the burners were replaced, and startup occurred March 1, 2019. When the burners were replaced, the new units operate with an oxygen trim system (Attachment A). Arauco is submitting this modification to have the tune-up frequency and language in Section 2.1.D.5 changed from annual to every five years according to the regulations under 63.7540(12), a unit that has a continuous oxygen trim system.

Arauco submitted a letter to DEQ stating the emission source EVAP-1 was no longer in operation on July 13, 2018 (Attachment B). As of October 2018, the evaporator was no longer located on Arauco's site. Arauco is submitting this permit application to have all recordkeeping and reporting requirements and any language associated with EVAP-1 in Section 2.1.G be removed from the Title V air quality permit.

Arauco is submitting this permit application to satisfy the requirements of submitting a permit application on or before 12 months after commencing operation of equipment listed as 15A NCAC 02Q .0501(b)(2). In application 1900015.15A (Attachment C), Arauco proposes several projects that will increase the overall throughput capacity of the facility including: replacing the natural gas burners, introducing a chip steaming system, implementing a steam wand, upgrades to the mat scalping system, improvements to the press outfeed, and upgrades to the saw system. Since the 1900015.18A application was approved, Arauco has implemented the natural gas burners, chip steaming system, steam wand,

and mat scalping system as originally described in the application. The press outfeed and finishing saw upgrades will be implemented as described in the application when time and resources allow for project completion.

The biofilter (CD-18) is now installed and commissioned and Arauco would like to request Routine Control Device Maintenance exemptions per 40 CFR 63.2251 for two activities related to maintaining the biofilter: 1) replacing, unplugging, or repairing spray nozzles over the media beds and 2) replacing or repairing media in the biofilter.

Nozzle Maintenance

Arauco has found through limited operation that the nozzles inside the device are critical to maintaining sizable aerobic bacteria colonies for the efficient destruction of formaldehyde. Arauco has also found that it takes multiple days to cool the biofilter to a safe temperature because Arauco operates the biofilter in a thermophilic temperature range (140-150°F). A typical shutdown of the Moncure fiberboard plant for regular maintenance activities is only 12 hours and the biofilter internal temperature due to the insulation of the concrete can still be as high as 105°F after shutdown for 12 hours. This high temperature makes work inside the unit extremely strenuous and dangerous for operators and maintenance personnel. Arauco expects to only conduct this activity at most twice per year based upon qualitative evaluation of spray patterns inside the biofilter appearing plugged or decreases in flow rates from the water pumps in the biofilter.

Media Replacement

Arauco has not operated the new biofilter long enough to replace media but has found through experience with other biofilters that every 5 years, the structured media begins to collapse. For similar heat exposure reasons as mentioned above and due to potentially unpredictable catastrophic failure of media, Arauco is requesting this activity be a permissible routine control device maintenance exemption.

Emissions Minimization

Arauco plans to minimize operations by limiting production to nominal capacities during periods of routine control device maintenance exemption. During construction of the biofilter, Arauco demonstrated compliance with the North Carolina Air Toxics standard NCAC 2D.1100 for formaldehyde while bypassing emissions from its original dryer stacks so Arauco expects no significant offsite impacts related to formaldehyde while conducting routine control device maintenance.

If you have any questions about the requested changes, please contact Yvonne Couts, Moncure Environmental Manager, 919-545-5848 and/or yvonne.couts@arauco-na.com.

Sincerely,

Jeff McMillian
Plant Manager

Attachment B
Special Order of Consent 2019-001

BEFORE THE NORTH CAROLINA

ENVIRONMENTAL MANAGEMENT COMMISSION

STATE OF NORTH CAROLINA	)	
	)	
COUNTY OF CHATHAM	)	
	)	
IN THE MATTER OF:	)	SPECIAL ORDER BY CONSENT
ARAUCO NORTH AMERICA, INC.	)	SOC 2019-001
MONCURE MANUFACTURING SITE	)	
	)	
[FACILITY ID 1900015]	)	
	)	

This SPECIAL ORDER BY CONSENT (hereinafter referred to as the "ORDER") is made and entered into pursuant to North Carolina General Statute 143-215.110 by and between ARAUCO North America, Inc. (hereafter referred to as "ARAUCO" or "COMPANY") and the ENVIRONMENTAL MANAGEMENT COMMISSION, an agency of the State of North Carolina (hereinafter referred to as the "COMMISSION").

WITNESSETH:

I. The COMMISSION and ARAUCO hereby stipulate and agree to the following:

A. ARAUCO North America, Inc. ("ARAUCO" or "COMPANY") operates a manufacturing site (hereafter referred to collectively as the "FACILITY") that includes a Medium Density Fiberboard Manufacturing Facility ("MDF Facility") in Moncure, Chatham County, North Carolina. The FACILITY currently operates under Air Permit 03449T51 ("PERMIT") which was issued by the North Carolina Division of Air Quality ("DAQ") on March 6, 2019.

B. The FACILITY is an affected source subject to requirements under 40 CFR Part 63 Subpart DDDD ("Subpart DDDD" or "MACT") to control hazardous air pollutants ("HAPs") and subject to certain requirements under the Prevention of

Significant Deterioration ("PSD") program. The MACT requirements for the FACILITY are summarized in Section 2.2.A.1. of the PERMIT, and Section 2.2.B.2. of the PERMIT outlined the Best Achievable Control Technology ("BACT") under the PSD program. These requirements include a condition for 50% Destruction/Removal Efficiency ("DRE") for Wood Products Protocol 1 Volatile Organic Compounds ("WPP1 VOC") from the MDF Facility. Section 2.2.B.2.b. requires the COMPANY to demonstrate compliance with the 50% DRE for WPP1 VOC from the MPF Facility by May 20, 2019. The COMPANY did not complete the required testing by May 20, 2019.

C. Air pollutants from the MDF FACILITY are controlled by a series of emission control devices including a Biofilter (Permit ID No. CD-18) (hereafter referred to as the "BIOFILTER"). The BIOFILTER was installed over the past three years as prescribed under the terms of a prior Special Order by Consent between the COMMISSION and ARAUCO (SOC 2015-02). The BIOFILTER replaced a prior control device, which was a Photo-catalytic Gas Treatment (PGT) system intended to oxidize and thereby destroy volatile organic emissions, including the HAPs formaldehyde and methanol.

D. ARAUCO has experienced significant operational issues with the BIOFILTER since startup in February 2018. In particular, the BIOFILTER has had to be restarted on several occasions to assure sufficient biological growth for proper operation. Startups have required adjustment of several factors to achieve sufficient biological growth. The adjustments included eliminating urea injection for 30 days under a Deferral of Enforcement issued by DAQ, slowly increasing

fan speed to increase emission loading of the BIOFILTER, and adding bacteria from several different sources in order to diversify the biological population.

E. More recently, the COMPANY has discovered substantial damage within the BIOFILTER including serious deterioration of the concrete structure. Continued operation of the BIOFILTER without remedying the damage and deterioration could result in failure of the BIOFILTER in addition to reduced pollutant control and ultimately total degradation of the unit.

F. As a result of the operational problems with the BIOFILTER, the FACILITY has documented lower than expected control efficiencies for methanol, a primary WPP1 VOC and HAP associated with the MDF Facility operations. Although the BIOFILTER has met the initial performance demonstration requirements of MACT Subpart DDDD based on its control of formaldehyde emissions, the COMPANY does not believe that the BIOFILTER can meet the 50% DRE for WPP1 VOC BACT requirement under operational conditions to date.

G. To repair and optimize performance of the BIOFILTER will require physical internal and external modifications. Accomplishing the required work will necessitate total shutdown of the BIOFILTER. Once the modifications are completed, a slow ramp up to restart the BIOFILTER will be required in order to assure improved biological activity and overall system performance. These steps will require significant time to complete.

H. In addition to the foregoing, the BIOFILTER vendor has raised concerns about the urea injection system used to reduce nitrogen oxide ("NOx") emissions from the MDF Facility. In particular, the vendor believes that the urea may be

interfering with the operation and performance of the BIOFILTER and that modification or elimination of the urea injection system may be necessary to assure proper operation of the BIOFILTER.

I. On March 8, 2019, COMPANY representatives met with DAQ staff from the Raleigh Regional Office and Raleigh Central Office Technical Services and Permitting Sections to discuss the destruction efficiency and reliability problems with the BIOFILTER and the measures necessary to correct them. On May 8, 2019, ARAUCO notified DAQ that the COMPANY had made the decision to shut down the BIOFILTER on the day of the notification for an indefinite period of time due to concerns about employee safety, catastrophic equipment failure, and control device downtime.

J. On June 5, 2019, DAQ issued a Notice of Violation/Notice of Recommendation for Enforcement ("NOV/NRE") to ARAUCO for operation of the MDF Facility without the BIOFILTER in operation resulting in violations of the FACILITY's BACT and MACT PERMIT requirements.

K. On June 28, 2019, ARAUCO submitted its response to the June 5, 2019 NOV/NRE. The COMPANY documented progress made to date in terms of working with contractors and consultants to address the documented structural and performance issues associated with the BIOFILTER. The COMPANY also provided a proposed schedule of events that would allow the MDF Facility to be in compliance with all PERMIT requirements subject to this ORDER by August 2020.

L. Given the expected extended period of noncompliance with PERMIT

requirements due to the BIOFILTER being shut down or bypassed while being repaired and modified, the COMPANY requested to enter into this ORDER with the COMMISSION.

M. This ORDER authorizes operation of the MDF Facility without operating the BIOFILTER for the time periods specified herein for the COMPANY to modify, restart the BIOFILTER, and optimize performance in order to meet the requirements of the PERMIT.

N. During the period of this ORDER, all pollution control equipment at the FACILITY, other than the BIOFILTER that is required by the current air permit shall continue to operate in compliance with applicable requirements.

THEREFORE, the COMMISSION and the COMPANY, desiring to resolve and settle the compliance issues between them, have agreed to enter into this ORDER with the following terms and conditions:

II. The COMPANY, desiring to operate in a safe and environmentally sound manner in accordance with the rules and regulations of the COMMISSION does hereby agree to perform the following activities:

A. If not already signed by the effective date of this ORDER, the COMPANY shall sign the necessary contract(s) for remedial work on the DEVICE within 30 days after execution of this SOC.

B. If not already commenced as of the effective date of this ORDER, the COMPANY shall commence the remedial work according to the specifications in the contract(s) no later than 15 days after signing the necessary contract(s).

C. The COMPANY shall complete the remedial work as provided in the contract(s)

by December 31, 2019.

D. The COMPANY shall submit a test protocol for the BIOFILTER at least 60 days prior to the compliance test date.

E. The COMPANY shall conduct engineering evaluation, shakedown, and compliance testing to demonstrate compliance with all applicable PERMIT requirements and submit a test report within 180 days after completion of the remedial work.

F. The COMPANY shall submit no later than 14 days after the deadline for completing each milestone required in Paragraph II written certification to the Air Quality Regional Supervisor, Raleigh Regional Office, Division of Air Quality, when such milestone has been performed.

III. The COMPANY agrees to pay the following civil penalties:

A. The COMPANY agrees to pay the COMMISSION a civil penalty in the amount of $22,750. This amount shall be due and payable within 30 days of the effective date of this ORDER.

B. The COMPANY agrees to pay the COMMISSION stipulated penalties in the amounts of $7,500 per month for the period of time from shutdown of the BIOFILTER until a test report demonstrating compliance with all applicable PERMIT requirements is submitted to DAQ. The stipulated penalties shall be paid in two payments. The first payment is due by January 15, 2020 and shall cover all months the MDF Facility was out of compliance with PERMIT requirements in calendar year 2019. The second payment is due within 15 days after the date that the final BIOFILTER test report required by Paragraph II.E. of this ORDER is submitted to DAQ and will cover all months the MDF Facility was out of compliance in calendar year 2020. Partial months shall count as whole months when determining the amount of stipulated penalties to be paid.

IV. In the event that the COMPANY fails to comply with any deadline as set out in this ORDER or fails to achieve final compliance with any applicable requirement in this ORDER, the COMPANY agrees that, unless excused under Paragraph V, the COMPANY will pay the COMMISSION according to the following schedule:

Deadlines and Requirements	Stipulated Penalties
Failure to comply with any deadline specified in Paragraph II	$500 per day for the first 5 days and $1000 per day thereafter

Stipulated Penalties:
Failure within thirty (30) days of receipt of the Director's written demand to pay the penalties will be grounds for a collection action, which the Attorney General is hereby authorized to initiate. By entering this ORDER, the COMPANY waives any and all defenses and agrees that the sole issues in such action are whether or not thirty (30) days has elapsed and/or whether or not the COMPANY is excused pursuant to Paragraph V of this ORDER. The COMPANY shall pay all costs, including agency and attorney fees, associated with collection of a delinquent stipulated penalty.

V. The COMPANY's obligation to comply with the requirements set forth in this ORDER for which a stipulated penalty may be assessed, may be delayed or excused only to the extent that noncompliance is caused by circumstances beyond control of the COMPANY, as determined by the DAQ Director "DIRECTOR". Contractor delays or failure to obtain funding will not be considered events beyond the COMPANY's control. If any such delaying event occurs, the COMPANY shall notify the DAQ in writing within ten (10) days of encountering or discovering the delaying event, describing in detail the event or delay, the precise cause(s) of the event or delay, the measure(s) taken and to be taken by the COMPANY to prevent or minimize the event or delay, and the schedule by which those measures will be implemented. If the DIRECTOR determines that noncompliance

with this ORDER was caused by circumstances beyond the control of the COMPANY, the COMMISSION and the COMPANY jointly may stipulate and agree to a written modification of this ORDER. Any modification shall be subject to the requirements of 15A NCAC 2D .2201 et seq. Extension of any compliance date pursuant to this Paragraph shall not extend any subsequent deadlines established in the ORDER unless the subsequent deadline necessarily is dependent upon completion of the earlier deadline.

VI. This ORDER resolves the violation(s) described in Paragraph I of this ORDER. Any violation of Air Quality Standards by the COMPANY that is not resolved by this ORDER remains subject to appropriate enforcement action pursuant to N.C.G.S. §§ 143-215.114A, 143-215.114B and 215.114C.

VII. The COMPANY agrees to waive any rights it may have to seek judicial review to challenge this ORDER or to seek a stay of enforcement of this ORDER in connection with any judicial review of the State Implementation Plan. The COMMISSION acknowledges that this waiver does not prohibit the COMPANY from seeking modification of this ORDER if any regulatory standards upon which this ORDER is based are changed subsequent to its execution. In such cases, the COMPANY may petition that the ORDER be modified to reflect those regulatory changes.

VIII. In the event the COMMISSION or the DAQ find that reports, plans, specifications, or permit applications required by Paragraph II are in any respect deficient or if additional information is necessary to comply with the requirements of North Carolina General Statutes 143-215.107 et seq., any regulations promulgated thereunder, or any other applicable laws or regulations, the COMPANY shall be notified by the DAQ as soon as possible. The COMPANY shall be afforded an opportunity to modify, amend or

supplement its submissions to make such submissions complete and appropriate.

IX. All notices and reports required by this ORDER shall be delivered to:

Ray Stewart, Regional Air Quality Supervisor
N.C. Dept. of Environmental Quality
3800 Barrett Drive
Raleigh, North Carolina 27609

All payments required from the COMPANY by this ORDER shall be delivered to:

Enforcement Group-Payments
NCDEQ-DAQ
1641 Mail Service Center
Raleigh, North Carolina 27699-1641

X. This ORDER constitutes full and final settlement and satisfaction of all matters addressed herein and any and all claims or prospective claims that the COMMISSION has or may have for violations of regulations described in Paragraph I hereof, as of the date this ORDER is approved by the COMMISSION and continuing until this Order expires as provided in Paragraph XVI. This ORDER shall not affect the COMPANY's obligation to comply with any Federal, State, or local laws or regulations.

XI. Final approval and entry into this ORDER are subject to the requirements that the COMMISSION give notice of proposed consent decrees to the public, and that the public have at least thirty (30) days within which to comment on the ORDER.

XII. Should any provision of this ORDER be declared by a court of competent jurisdiction to be inconsistent with Federal or State law and therefore unenforceable, the remaining provisions hereof shall remain in full force and effect.

XIII. Except as otherwise set forth herein, this ORDER is not and shall not be interpreted to be a permit or modification of an existing permit under Federal, State or local law, and shall not be construed to waive or relieve the COMPANY of its obligations to comply in the

future with any permit.

XIV. In the event of termination of operations and closure of the FACILITY, the COMPANY shall notify the DIRECTOR in writing, within five (5) business days of the earlier of (i) the date of any Workers Adjustment and Retraining Notification Act (WARNA) notification, or (ii) FACILITY closure. Receipt of said notification from the COMPANY by the DIRECTOR shall terminate any obligations of the COMPANY pursuant to this ORDER, including those pertaining to stipulated penalties, and this ORDER shall become null and void in its applicability to the COMPANY. The COMPANY acknowledges its responsibilities pursuant to this ORDER from the date of final approval and entry of this ORDER, through the date of receipt by the DIRECTOR of notification of closure required by this Paragraph.

XV. This ORDER is effective on execution by the Division of Air Quality and shall expire on December 31, 2020, or on the date that the Division of Air Quality notifies ARAUCO in writing that the test results submitted in accordance with Paragraph II.E. of this ORDER are acceptable to demonstrate compliance with the applicable PERMIT requirements for the MDF Facility, whichever date comes first.

This the 26 day of July, 2019.

ARAUCO NORTH AMERICA, INC.

BY: _____
Steve Carroll
Manufacturing Director
Moncure, N.C.

APPROVED AND ACCEPTED

BY: _____
For the Environmental
Management Commission

DATE: 9/5/19

Attachment C
Preliminary and Final Determination for Permit No. T50

NORTH CAROLINA DIVISION OF AIR QUALITY

PSD Final Determination

Issue Date: **November 21, 2018**

Region: Raleigh Regional Office
County: Chatham
NC Facility ID: 1900015
Inspector's Name: Matthew Mahler
Date of Last Inspection: 06/13/2018
Compliance Code: B / Violation - emissions

Facility Data

Applicant (Facility's Name): Arauco Panels USA, LLC

Facility Address:
Arauco Panels USA, LLC
985 Corinth Road
Moncure, NC 27559

SIC: 2493 / Reconstituted Wood Products
NAICS: 321219 / Reconstituted Wood Product Manufacturing

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

Permit Applicability (this application only)

SIP: 02D .0530
NSPS:
NESHAP: MACT 5D
PSD: Yes for VOC and 02D .0530(u) for others
PSD Avoidance:
NC Toxics:
112(r):
Other:

Contact Data

Facility Contact	Authorized Contact	Technical Contact
Yvonne Couts Environmental Coordinator (919) 545-5848 985 Corinth Road Moncure, NC 27559	Henry Scheller Plant Manager (919) 545-5857 985 Corinth Road Moncure, NC 27559	John Bird Environmental Health & Safety Manager (919) 642-6658 985 Corinth Road Moncure, NC 27559

Application Data

Application Number: 1900015.18A
Date Received: 06/13/2018
Application Type: Modification
Application Schedule: PSD

Existing Permit Data

Existing Permit Number: 03449/T49
Existing Permit Issue Date: 02/28/2018
Existing Permit Expiration Date: 06/30/2021

Total Actual emissions in TONS/YEAR:

CY	SO2	NOX	VOC	CO	PM10	Total HAP	Largest HAP
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)]
2013	12.57	292.92	503.89	454.06	136.96	79.08	32.03 [Formaldehyde]
2012	13.66	313.22	533.29	523.84	137.67	222.00	140.87 [Formaldehyde]

Review Engineer: Joseph Voelker

Review Engineer's Signature: **Date:** 11/21/18

Comments / Recommendations:
Issue 03449/T50
Permit Issue Date: 11/21/2018
Permit Expiration Date: 06/30/2021

I. Introduction

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

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.

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.

This final determination document will address and complete the applicable processing requirements under the following regulations:

- 15A NCAC 2Q .0306 "Permits Requiring Public Participation,"
- 15A NCAC 2Q .0307 "Public Participation Procedures,"
- 15A NCAC 2Q .0308 "Final Action on Permit Applications"
- 15A NCAC 2D .0530 "Prevention of Significant Deterioration"
- 15A NCAC 2D .0544 "Prevention of Significant Deterioration Requirements for Greenhouse Gases"

To this end, the NCDAQ:

- On September 25, 2018, the Federal Land Managers for the National Parks Service, Forest Service, and Fish and Wildlife Service for all Class 1 areas within the vicinity of the Arauco project were contacted and notified of the proposed project and were also provided a copy of the PSD Pre-Application Checklist. The FLMs did not respond with any requests for further analyses.

- On September 25, 2018, submitted an electronic copy of the permit application to USEPA Region IV. The question was asked if a hardcopy version should be submitted to the EPA. A response was received on September 26, 2018 stating that no hard copy needed to be submitted to the EPA for review.

- On October 17, 2018, sent an electronic copy of the preliminary determination, draft permit, and public notice to:
  - the applicant.
  - the USEPA Region IV
  - the Chatham County Manager
  - the NCDAQ Raleigh Regional Office.
  - all affected states
  - all interested parties as defined at 2Q .0307(b) and (h)

- On October 19, 2018, published a "Public Notice on Preliminary Determination Regarding Approval of an Application Submitted Under the Regulations for the Prevention of Deterioration of Air Quality" in the Raleigh News and Observer newspaper and on the NCDAQ website.

- On November 18, 2018, the 30-day public comment period ended. No comments were received from the EPA nor the general public. One comment was received from the NCDAQ Raleigh Regional Office. It will be discussed below.

II. Comments on the Draft Permit and Preliminary Determination

On October 12 and 17, 2018, the Raleigh Regional Office made comments on the draft permit concerning draft permit conditions 2.1 C.6.c through e. The conditions read as follows:

Recordkeeping *[15A NCAC 02D .0530(u)]*

c. *The Permittee shall maintain records of the actual emissions of PM_{10}, $PM_{2.5}$, NO_x, and CO from the dryer (ID No. ES-02-B) in tons per year. Records shall start 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. The first year shall start on the first day of the first full calendar month after commencing regular operations after the modification described in application no. 1900015.17D. Each subsequent year shall include the same 12-month period.*

d. *The reported actual emissions (post-construction emissions) of the dryer (ID No. ES-02-B) for each of the years will be compared to the projected actual emissions (pre-construction projection) for the dryer as included below:*

Pollutant	***Projected Actual Emissions* (tons per year)***
PM_{10}	*65*
$PM_{2.5}$	*65*
NOx	*128*
CO	*232*

* *These projections are not enforceable limitations. If projected emissions are exceeded, consistent with 15A NCAC 02D .0530, the permittee shall include in its annual report an explanation as to why the actual rates exceeded the projection.*

The Permittee shall make the information, documented and maintained in this condition available to the Director or the general public pursuant to the requirements in 40 CFR 70.4(b)(3)(viii).

Reporting *[15A NCAC 02D .0530(u)]*

e. *The Permittee shall submit a report of the actual emissions of the pollutants identified in Section 2.1 C.6.c from the dryer (ID No. ES-02-B) to the Director within 60 days after the end of each year (as defined in Section 2.1 C.6.c) during which the records in Section 2.1 C.6.c must be generated. The report shall contain the items listed in 40 CFR 51.166(r)(6)(v)(a) through (c).*

The concern raised was that the projected actual emissions estimate for the whole project relied in part on a questionable emission factor. The refiner abort cyclone (ID No. ES-01) is a PM-emitting source whose emissions could increase because of the expected increase in throughput as a result of the project. The emission factor used is an emission factor provided by the Oregon Department of Environmental Quality (Oregon DEQ). The derivation of this emission factor is considered questionable by the NCDEQ as the factor has been proposed in previous permitting actions but no basis for its derivation could ever be obtained. The concern in this situation can be summarized as that the use of this emission factor may underestimate emissions from the project.

Note the permit conditions above were limited to recordkeeping emissions from the dryer alone. The intent was to simplify recordkeeping by focusing on the major emitting source. This simplification was undertaken assuming that all emission estimates were reasonable and justifiable. Since the emission factor in question is not justifiable at this time, these three conditions will be revised to track emissions from <u>all</u> project affected sources. Thus, when (or before) the emission estimates are reported, the permittee will have the opportunity to provide a more rigorous emissions estimation methodology for this source.

The conditions will be revised to read as follows:

Recordkeeping *[15A NCAC 02D .0530(u)]*

c. *The Permittee shall maintain records of the actual emissions of PM_{10}, $PM_{2.5}$, NO_x, and CO from the* **sources indicated in the permitted equipment list in Section 1 as the Medium Density Fiberboard (MDF) Facilities (MDF Facilities)** *in tons per year. Records shall start 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. The first year shall start on the first day of the first full calendar month after commencing regular operations after the modification described in application no. 1900015.17D. Each subsequent year shall include the same 12-month period.*

d. *The reported actual emissions (post-construction emissions) of the* **MDF Facilities** *for each of the years will be compared to the projected actual emissions (pre-construction projection) for the dryer as included below:*

Pollutant	***Projected Actual Emissions* (tons per year)***
PM_{10}	***92***
$PM_{2.5}$	***92***
NOx	***144***
CO	***251***

* *These projections are not enforceable limitations. If projected emissions are exceeded, consistent with 15A NCAC 02D .0530, the permittee shall include in its annual report an explanation as to why the actual rates exceeded the projection.*

The Permittee shall make the information, documented and maintained in this condition available to the Director or the general public pursuant to the requirements in 40 CFR 70.4(b)(3)(viii).

Reporting *[15A NCAC 02D .0530(u)]*

e. *The Permittee shall submit a report of the actual emissions of the pollutants identified in Section 2.1 C.6.c from the* ***MDF Facilities*** *to the Director within 60 days after the end of each year (as defined in Section 2.1 C.6.c) during which the records in Section 2.1 C.6.c must be generated. The report shall contain the items listed in 40 CFR 51.166(r)(6)(v)(a) through (c).*

Given that these changes result in more rigorous recordkeeping, they have been deemed to be more stringent than those proposed in the draft permit Thus, there is no need to subject these revisions to public notice procedures.

III. DAQ recommendations

The NCDAQ recommends issuing the FINAL air permit for the proposed project as described in the preliminary determination, with the changes described above. No changes to the draft permit were made as a result of public comments.

Attachment A
Preliminary Determination

NORTH CAROLINA DIVISION OF AIR QUALITY

Application Review and PSD Preliminary Determination

Issue Date:

Region: Raleigh Regional Office
County: Chatham
NC Facility ID: 1900015
Inspector's Name: Matthew Mahler
Date of Last Inspection: 06/13/2018
Compliance Code: B / Violation - emissions

Facility Data

Applicant (Facility's Name): Arauco Panels USA, LLC

Facility Address:
Arauco Panels USA, LLC
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 .0530
NSPS:
NESHAP: MACT 5D
PSD: Yes for VOC and 02D .0530(u) for others
PSD Avoidance:
NC Toxics:
112(r):
Other:

Contact Data

Facility Contact	Authorized Contact	Technical Contact
Yvonne Couts Environmental Coordinator (919) 545-5848 985 Corinth Road Moncure, NC 27559	Henry Scheller Plant Manager (919) 545-5857 985 Corinth Road Moncure, NC 27559	John Bird Environmental Health & Safety Manager (919) 642-6658 985 Corinth Road Moncure, NC 27559

Application Data

Application Number: 1900015.18A
Date Received: 06/13/2018
Application Type: Modification
Application Schedule: PSD

Existing Permit Data

Existing Permit Number: 03449/T49
Existing Permit Issue Date: 02/28/2018
Existing Permit Expiration Date: 06/30/2021

Total Actual emissions in TONS/YEAR:

CY	SO2	NOX	VOC	CO	PM10	Total HAP	Largest HAP
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)]
2013	12.57	292.92	503.89	454.06	136.96	79.08	32.03 [Formaldehyde]
2012	13.66	313.22	533.29	523.84	137.67	222.00	140.87 [Formaldehyde]

Review Engineer: Joseph Voelker

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

Comments / Recommendations:
Issue 03449/T50
Permit Issue Date:
Permit Expiration Date:

I. Introduction and Purpose of Application

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

Arauco is submitting this 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.

This application will be processed consistent with 15A NCAC 02. 0530 Prevention of Signification Deterioration. It will also be processed in a two-step fashion consistent with 15A NCAC 02Q .0501(b)(2) and 02Q .0504.

II. Chronology

Date	Description
June 13, 2018	An application was received and assigned application no. 1900015.18A
September 27, 2018	Email received from RO stating that Arauco would like to revise the BACT limits for sources controlled by the biofilter to simply 50% DRE WPP1 VOC
MM DD YYYY	Public Notice published on NCDENR DAQ website; concurrent public/EPA comment period begins
MM DD YYYY	Public comment period ends. TBD
MM DD YYYY	EPA comment period ends. TBD

III. Modification Description

Arauco is submitting this application for several process improvement projects that will increase emissions from the MDF mill. Since this is a physical change that will increase emissions at the mill, Arauco is providing the required analyses consistent with 15A NCAC 02D .0530 PSD. Emissions increases are compared to the significant emission rates (SER) provided in 40 CFR 51.166(b)(23)(i) to determine if PSD permitting is required. Emissions increases of VOC are expected to exceed the SER. The proposed project consists of the following:

Thermal Oil Burner Replacement

Arauco is proposing to increase the heat input capacities of the three (3) hot oil heaters (ES-18, 19, and 20) at the MDF Mill. The new burners will each have a maximum heat input capacity of 40 MMBtu/hr, but will be physically de-rated to 30.4 MMBtu/hr. The burners indirectly heat oil to heat the MDF Press (ES-16). Arauco is replacing the burners with higher-capacity burners to allow the mill to reduce downtime and increase throughput. The increased throughput allows a higher throughput in all equipment, as the equipment in the MDF process in series.

Additional Process Improvement Projects

- Chip Steaming System: Proposed upgrade will steam chips more evenly prior to the digester, resulting in a more consistent product. This project will not increase mill throughput. The digester and existing chip steamer are not permitted sources, and do not emit VOC.

- Forming Heat & Humidification (steam wand): This proposed upgrade would add a steam wand in the forming area to pre-heat the mat before it enters the press. The pre-heating will allow the press to run at a higher rate in the winter months, which will result in an increase annual throughput. The steam wand will be heated by existing combustion sources, and will not have any direct emissions of VOC. This project may result in increased VOC emissions from associated increases in throughput.

- Mat Scalping System: Proposed upgrade will remove small amounts of mat at points of higher density to create a mat with a uniform density. This will improve product quality and reduce downtime. The mat scalping system does not have any direct emissions, but the project may result in a VOC increase from associated sources.

- Press Outfeed (ES-16): The proposed upgrade will improve feeds from the outlet and optimize transfer to the board cooler from the MDF press. These efficiency increases will reduce downtime and may allow increased press rates. The increased rate and decreases in downtime, may result in an increase in direct VOC emissions from the press as well as associated sources of VOC.

- Finishing Area Saws (ES-07): It is believed that the proposed upgrades listed above will result in moving the mill bottleneck to the finishing saw area. Arauco proposes to install upgraded sawing and packaging systems, which will relieve that bottleneck at the saws and result in increased throughput at the mill. The increased saw throughput will result in an increase in direct VOC emissions from the saw as well as from associated sources of VOC emissions.

In summary there will be physical modifications to emission sources and modifications to operations which are not emission sources that will allow an increase in throughput and hence an increase in emissions.

The modifications will be discussed separately as necessary in context of regulatory applicability.

IV. Regulatory Review (excluding PSD)

Finishing Area Saws (ES-07)

As stated above, it is believed that the proposed upgrades listed above will result in moving the mill bottleneck to the finishing saw area. Arauco proposes to install upgraded sawing and packaging systems to relieve that bottleneck at the saws and realize increased throughput at the mill. After all modifications are accomplished, the facility projects that a maximum MDF production rate of 195,000 MSF/yr, ¾" basis, can be obtained.

It is unclear what the preexisting potential throughput is but as will be shown in the PSD review, during 2015 through 2016 (the PSD baseline period) the facility operated for 7,182 hours per year with an MDF throughput of 153,502 MSF/yr. Thus, for review purposes, the increase in throughput of the saws, and the entire MDF process as well, will be approximately 41,498 MSF/yr, or an increase of 27% on an annual basis.

The Permittee estimates PM2.5, PM10 and total PM emissions are all equal at 0.84 lb/hr, as controlled by bagfilters. The Permittee estimates VOC emissions at 0.01 lb/MSF. These emission factors were established as part of the PSD avoidance condition emission factor revision project in 2013 (permit no. T43 issued January 22, 2014). The VOC emission factor was also established as VOC BACT for the saws in permit no. T47 (issued August 30, 2017). No other emissions are expected from the saws.

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. Although the saws are being modified, no changes are being made to the control system which is a typical fabric filter system for the wood products industry. Any changes to the control system will be addressed in a separate permit application if necessary. 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.

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

This rule requires visible emission to be less than 20% opacity. These sources have no documented violations based on a review of the inspection reports. It is not expected that the modification will result in an increase in visible emissions. No substantive changes will be made to the existing permit condition. The Permittee will however have to reestablish "normal" visible emissions after modification is completed.

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

See discussion elsewhere in this review document.

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

The permittee has argued that the bagfilters on these sources are inherent to the process and therefore are not control devices for purposes of CAM. See review for permit no. T45, issued July 01, 2016. Hence, CAM does not apply to these sources.

Press (ES-16):

As stated above, the proposed upgrade will improve feeds from the outlet of the press and optimize transfer to the board cooler from the MDF press. These efficiency increases will reduce downtime and may allow increased press rates. The increased rate and decreases in downtime may result in an increase in direct VOC emissions from the press as well as associated sources of VOC.

Emissions from the press are commingled with the:

- refiner (ES-01)
- the wood-fired energy system (ES-02-A), that supplies direct heat to the two-stage dryer system (ES-02-B)
- Three backup natural gas-fired dryer burners (ES-02-C-1, -C-2 and -D) that supply direct heat to the two-stage dryer system (ES-02-B)
- MDF Board cooler (ES-06-B)

All the emissions from these operations are routed to the two parallel venturi scrubbers (CD02 and CD14) which are then routed to the biofilter.

15A NCAC 02D .0515: PARTICULATES FROM MISCELLANEOUS INDUSTRIAL PROCESSES
As stated above all emissions from the press are commingled with the emission sources listed above. The Permittee expects that the current emission controls and the existing permit M/R/R will ensure compliance with this regulation. The current permit will be revised to require annual PM testing on the biofilter outlet now that it has been installed and operational instead of the outlet of the venturi scrubbers.

15A NCAC 02D .0521: CONTROL OF VISIBLE EMISSIONS
As stated above all emissions from the press are commingled with the emission sources listed above. The Permittee expects that the current emission controls and the existing permit M/R/R will ensure compliance with this regulation. The current permit will be revised to require the reestablishment of "normal" VEs observations from the biofilter after the modifications addressed in this application are completed.

15A NCAC 02D .0516: SULFUR DIOXIDE EMISSIONS FROM COMBUSTION SOURCES
The modifications addressed in this application are not expected to increase the emissions of sulfur dioxide on a lb/MMBtu basis which are the units of the standard (i.e., 2.3 lb/MMBtu). No changes are necessary to the current permit.

15A NCAC 02D .0614: COMPLIANCE ASSURANCE MONITORING [40 CFR 64]
As stated all the emissions from these operations are routed to the two parallel venturi scrubbers (CD02 and CD14) which are then routed to the biofilter (CD18). The current permit contains CAM plans for the scrubbers (PM control) and the biofilter (VOC control). No changes to the existing CAM plans because of this modification are necessary.

15A NCAC 02D. 0530(u): USE OF PROJECTED ACTUAL EMISSIONS TO AVOID APPLICABILITY OF PREVENTION OF SIGNIFICANT DETERIORATION REQUIREMENTS
This condition was placed into permit no. T48 because of application no .17D. This project involved modifications to the MDF dryer involving natural gas burner replacement to achieve increases in throughput, reliability and safety of the entire MDF mill when firing natural gas ("2017 dryer efficiency project"). This project was not to increase the overall design capacity of the MDF mill but with the goal of increased uptime the annual throughput of the MDF mill was expected to increase. Instead of requiring recordkeeping of the entire MDF mill, the permit contained the following projected actual emission estimates for the MDF dryer.

Pollutant	Projected Actual Emissions (tons per year)
PM_{10}	67
$PM_{2.5}$	67
NOx	147
CO	268

Pollutant	Projected Actual Emissions (tons per year)
VOC	378

These projected increases were based on the baseline period of January 2015 through December 2016 for all pollutants except VOC which was 2014 through 2015.

For the current project at hand, it is expected the project will remove some bottlenecks and hence increase throughput of the MDF mill. When assessing PSD review applicability, the Permitee used January 2015 through December 2016 for all pollutants, including VOC, and determined that a PSD review was necessary only for VOC (see table below). In effect the permittee combined the dryer efficiency project and the current project for PSD applicability purposes. Since any increase in VOC emissions associated with the 2017 dryer efficiency project are now being subjected to PSD review, VOC will be removed from the pollutants for which recordkeeping of projected actual emissions will be required under 02D .0530(u).

The table below which is discussed in more detail in Section V of this review shows the PSD applicability calculations for the proposed project. Note that for other than VOC and PM2.5, the permittee expects to have increases in PSD pollutant emissions much less than the respective SER. VOC will be subjected to PSD review, however, PM2.5, is projected to be just below its respective SER. As stated above, this project is expected to allow an increase in production. Based on this 9.99 tpy value, it seems that the Permittee maximized its projected throughput (approximately 30%, see Section V) to just below the PM2.5 SER. Discussions with the Permittee during the application process led to the conclusion that the project was not expected to result in an immediate increase in production of approximately 30% but given the nature of the modifications it did not want to take a PSD avoidance restriction or rely on a projected actual emissions calculated pursuant to 02D .0530(u) to avoid PSD review entirely. The facility does appear comfortable however, projecting that this project will lead to an increase in production to less than 30% over the next 10 years, hence avoiding triggering PSD review for PM2.5.

Table 3-3. PSD Applicability of Proposed Project

Emissions	Total PM [1] (tpy)	PM_{10} (tpy)	$PM_{2.5}$ (tpy)	VOC (tpy)	SO_2 (tpy)	NO_x (tpy)	CO (tpy)	Lead (tpy)
(B) Projected Actual Emissions	92.30	92.30	91.95	426.50	9.82	143.68	250.90	0.02
(A) Baseline Actual Emissions	83.83	83.83	81.95	328.90	9.07	127.71	224.34	0.02
Total Change (B-A)	8.47	8.47	9.99	97.60	0.75	15.97	26.56	0.00
SER	25	15	10	40	40	40	100	0.6
% of SER	34%	56%	100%	244%	2%	40%	27%	< 1%
Exceeds?	No	No	No	YES	No	No	No	No

1. Total PM emissions set equal to PM_{10} emissions.

Hence, the projected actual emission estimates in the current permit condition will be revised to include the effect of the current project. The current permit had somewhat lower throughput projections and since the project was expected to actually increase throughput, the projections should be more representative of future production. Since the dryers are expected to emit the majority of the pollutants that require tracking, the emissions tracking will be limited to the MDF dryer.

The table will be revised to read as follows:

Pollutant	Projected Actual Emissions* (tons per year)
PM_{10}	65
$PM_{2.5}$	65

Pollutant	Projected Actual Emissions* (tons per year)
NOx	128
CO	232

Records will be required to be kept for ten years since the project will involve an increase in design capacity of the MDF mill.

15A NCAC 02D .0530: PREVENTION OF SIGNIFICANT DETERIORATION
See discussion elsewhere in this review document.

15A NCAC 2D .1111: MAXIMUM ACHIEVABLE CONTROL TECHNOLOGY
The HAP emissions of the press are captured by an enclosure which are then ultimately routed to the biofilter. The biofilter is required to be operated in a bed temperature range established during performance testing. The Permittee has already met its initial testing requirement for the biofilter. The Permittee plans to retest to expand the biofilter bed temperature operating range. No retest will be required explicitly as a result of this modification. See the PSD review discussion in Section V for details. No changes are necessary to the existing permit condition.

Three natural gas-fired hot oil heaters (24 million Btu per hour maximum heat input each) ES-18, ES-19, and ES-20

The three hot oil heaters appear in the existing permit as follows:

Emission Source ID No.	Emission Source Description	Control Device ID No.	Control Device Description
ES-18, ES-19, and ES-20	Three natural gas-fired hot oil heaters (26 million Btu per hour maximum heat input each)	NA	NA

The Permittee intends on replacing each burner with new burners that each have a maximum heat input capacity of 40 MMBtu/hr but will be derated to 30.4 MMBtu/hr. In an email dated July 25, 2018 the Permittee stated the following:

> *I received some information about the derate. The derate is accomplished in a couple of ways:*
> *- Gas flap on the burner is modified such that it cannot fully open.*
> *- The heat transfer coil for the thermal oil loop within each unit is sized such that it would meltdown if the unit is operated beyond the derated capacity.*

Each heater heats the oil in a single hot oil loop, that in turn heats the MDF Press (ES-16). Arauco is replacing the burners with higher-capacity burners to allow the mill to reduce downtime and increase throughput. The increased throughput may allow a higher throughput in all equipment, as the equipment in the MDF process is in series. These heaters serve as backup units to replace or augment the heat supplied by the energy system (ES-22). Each of these heaters each have their own emission point and are uncontrolled. Given that physical modifications would be required to operate the heaters at heat inputs greater than 30.4 MMBtu/hr and hence a permit modification would also be required, the burners will be permitted at the derated heat input of 30.4 MMBtu/hr each and all regulatory review will also be based on this heat input.

The hot oil heaters will appear in the revised permit as follows:

Emission Source ID No.	Emission Source Description	Control Device ID No.	Control Device Description
ES-18, ES-19, and ES-20	Three natural gas-fired hot oil heaters (30.4 million Btu per hour maximum heat input each)	NA	NA

15A NCAC 02D .0503: PARTICULATES FROM FUEL BURNING INDIRECT HEAT EXCHANGERS
As natural gas fired indirect heat exchangers, the PM emissions are minimal. Pursuant to this rule, the allowable emissions of particulate matter shall be calculated by the equation E = 1.090 times Q to the -0.2594 power, where E = allowable emission limit for particulate matter in lb/million Btu and Q = maximum heat input in million Btu/hour. Q is calculated for the situation at hand by summing the heat input from all **non-wood**-fired on-site heat exchangers.

These three hot oil heaters each have a heat input of 30.4 MM/Btu/hr each or 91.6 MMBtu/hr total.
The three natural gas fired dryer burners (ES-02-C-1, -C-2 and -D) each have heat inputs of 35, 35, and 17 MMBtu/hr respectively or 87 MMBtu/hr total.
The hot oil heater at the laminator mill has a heat input of 4.7 MM/Btu/hr.
The Wellons unit at the PB mill (ID No. 3201) has a heat input of 21.8 MMBtu/hr.
The drum dryers at the PB mill (ID No. 1420 and 1430) have heat inputs of 50 and 60 MMBtu/hr respectively or 110 MMBtu/hr total.
Therefore the total heat input from all **non-wood**-fired on-site heat exchangers is 315.1 MMBtu/hr. Using the equation above, the allowable emission limit for particulate matter for these three new oil heaters is 0.25 lb/MMBtu. Based, on AP-42 emission factors, PM emissions are expected to be 0.007 lb/MMBtu. Compliance with this PM standard is expected. Consistent with the current permit, no M/R/R/ will be required.

15A NCAC 02D .0516: SULFUR DIOXIDE EMISSIONS FROM COMBUSTION SOURCES
15A NCAC 02D .0521: CONTROL OF VISIBLE EMISSIONS
As natural gas fired indirect heat exchangers, the visible and SO2 emissions are minimal. As such, no M/R/R applies for the above regulations, pursuant to current DAQ policy. No other substantive changes will be made to the existing permit conditions.

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 new burners like the previous burners are subject to this rule but only the fuel recordkeeping and construction and start up notification requirements. This permit application serves as the construction notification. The permit will be revised accordingly.

15A NCAC 02D .1109: Case-by-Case MACT FOR BOILERS AND PROCESS HEATERS
The existing burners were subject to this rule. This rule does not apply to the new burners. The condition will be removed from the air permit.

15A NCAC 02D .1111: MAXIMUM ACHIEVABLE CONTROL TECHNOLOGY
40 CFR Part 63 Subpart DDDDD, "National Emission Standards for Hazardous Air Pollutants for Major Sources: Industrial, Commercial, and Institutional Boilers and Process Heaters"
The new burners are new affected sources under this rule. Each burner will be subject to an annual tune up. Each annual tune-up shall be conducted no more than 13 months after the previous tune-up. The initial tune-up shall be conducted no later than 13 months after the initial startup of the source. Simple recordkeeping and annual reporting to the DAQ and directly to the EPA electronically is also required. The permit will be revised accordingly to include these requirements.

Facility-wide Regulatory Considerations

STATE ENFORCEABLE ONLY
15A NCAC 02D .1806: CONTROL AND PROHIBITION OF ODOROUS EMISSIONS
This rule requires the Permittee to 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 requirement is already included in the permit. This enforcement of this rule is generally complaint driven. It is unlikely that the modifications made pursuant to this application will result in any off-site odor issues. Continued compliance is expected.

STATE ENFORCEABLE ONLY
15A NCAC 02D .1100 TOXIC AIR POLLUTANTS

The current permit does not contain any 02D .1100 emission limitations. All 02D .1100 emission limits were removed in permit no. T45. All the TAP emitting sources were (are) MACT affected and met the toxics permitting exemption at 02Q .0702(a)(27). All TAP emitting sources must be reviewed by the DAQ pursuant to NCGS 143-215.107(b) during modifications prior to allowing such exemptions. See the review for Permit No. T45 for full details.

During the review for Permit no. T49, issued on 02/28/2018 a TAP emissions review pursuant to NCGS 143-215.107(b) was conducted. The only difference with respect to TAP emissions in that application and this one is the potential increase in actual emissions of TAPs from the same sources with the same controls. No new TAP emitting sources are being constructed.

In the T49 analysis, it was shown that the expected facility-wide emissions of formaldehyde (which is the controlling TAP) were expected to be on the order of 20% of those used in the August 2015 and November 2016 modeling demonstrations. The AAL impacts with respect to formaldehyde in the 2015 and 2016 analyses were on the order of 90% of the AAL. Thus, the modifications that were included in permit no. T49 were not expected to result in an unacceptable risk to human health pursuant to NCGS 143-215.107(b).

In the current modification, the increase in potential formaldehyde emissions will be roughly proportional to the increase in production of the MDF dryer throughput and the MDF press throughput. Prior to this modification an estimate of the actual throughputs was as follows (taken from the PSD baseline period calculations):

Baseline Throughputs for MDF Plant [1]

Activity and Usage Description	Baseline Throughput	
Hours of Operation	7,182	hr/yr
Mat Reject	493	hr/yr
Refiner Abort	161	hr/yr
Energy System (Teaford) Abort	53,618	MMBtu/yr
Maximum Press Production	153,502	MSF 3/4" per year
MDF Plant Production - SW	197,559	ODMT/yr
Natural Gas Combustion	163,758	MMBtu/yr
Furnace Wood Combustion	671,702	MMBtu/yr

1. Baseline throughputs are based on the 12-month average of throughput for the 24-month period of January 2015, through December 2016.

The projected throughputs are as follows:

Projected Throughputs for MDF Plant

Activity and Usage Description	Projected Throughput	
Hours of Operation	8,759	hr/yr
Mat Reject	876	hr/yr
Refiner Abort	175.2	hr/yr
Energy System (Teaford) Abort	10,000	MMBtu/yr
Energy System (Teaford) Abort	49	hr/yr
Dryer Natural Gas Usage	10	%
Maximum Press Production	195,000	MSF 3/4" per year
MDF Dryer Throughput	259,000	ODMT/yr
Natural Gas Combustion - Ness Burners	312,000	MMBtu/yr
Furnace Wood Combustion	773,540	MMBtu/yr

The ratio of projected potential press throughput to baseline throughput is 1.27. The ratio of projected potential dryer throughput to baseline throughput is 1.31. Thus, potentially this modification could result in an increase in of formaldehyde emissions by 31% over the baseline period. Note that this is on an annual basis and not necessarily on an hourly basis.

Recall from the above discussion that in the review for permit no. T49, facility wide emissions of formaldehyde on an hourly basis were expected to be only 20% of those emissions that would result in impacts of 90% of the AAL. In other words, the hourly emissions from these sources as a result of this modification could increase by a factor of 5 (or a 500% increase) before the emissions would approach 90% of the AAL. Using the worst case expected increase here of 31% of formaldehyde emissions, it is reasonable to assume that the emission increases associated with this modification would not result in ambient impacts anywhere near the AAL.

Based on this discussion, it is this engineers' opinion that the modifications addressed in this application will not result in an unacceptable risk to human health pursuant to NCGS 143-215.107(b). Therefore, the MACT affected sources at the facility will retain the toxics permitting exemption at 02Q .0702(a)(27).

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

See Section V below for a discussion of this regulation.

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

The PSD regulations are designed to ensure that the air quality in current attainment areas does not significantly deteriorate beyond baseline concentration levels. PSD regulations specifically apply to the construction and/or modification of EPA-defined Major Stationary Sources in areas designated as attainment or unclassified attainment for at least one of the criteria pollutants. North Carolina has incorporated EPA's PSD regulations (40 CFR 51.166) into its air pollution control regulations in 15A NCAC 02D .0530. Once it is determined that a pollutant exceeds the major source threshold, each of the remaining pollutants is subject to PSD review if the potential to emit (PTE) exceeds the Significant Emission Rates (SER).

The elements of a PSD review are as follows:

1) A Best Available Control Technology (BACT) Determination as determined by the permitting agency on a case-by-case basis in accordance with 40 CFR 51.166(j),
2) An Air Quality Impacts Analysis including Class I and Class II analyses, and
3) An Additional Impacts Analysis including effects on soils and vegetation and impacts on local visibility in accordance with 40 CFR 51.166(o).

Best Available Control Technology (BACT) Determination

Under PSD regulations, the basic control technology requirement is the evaluation and application of BACT. BACT is defined as follows [40 CFR 51.155 (b)(12)]:

> ***An emissions limitation...based on the maximum degree of reduction for each pollutant... which would be emitted from any proposed major stationary source or major modification which the reviewing authority, on a case-by-case basis, taking into account energy, environment, and economic impacts and other costs, determines is achievable... for control of such a pollutant.***

As evidenced by the statutory definition of BACT, this technology determination must include a consideration of numerous factors. The structural and procedural framework upon which a decision should be made is not prescribed by Congress under the Act. This void in procedure has been filled by several guidance documents issued by the federal EPA. The only final guidance available is the October 1980 "Prevention of Significant Deterioration – Workshop Manual." As the EPA states on page II-B-1, "A BACT determination is dependent on the specific nature of the factors for that **particular case**. The depth of a BACT analysis should be based on the quantity and type of pollutants emitted and the **degree of expected air quality impacts**." (emphasis added). The EPA has issued additional DRAFT guidance suggesting the use of what they refer to as a "top-down" BACT determination method. While the EPA Environmental Appeals Board recognizes the top-down approach for delegated state agencies,[1] this procedure has never undergone rulemaking and as such, the process is not binding on fully approved states, including North Carolina.[2] The Division prefers to follow closely the statutory language when making a BACT determination and therefore bases the determination on an evaluation of the statutory factors contained in the definition of BACT in the Clean Air Act. As stated in the legislative history and in EPA's final October 1980 PSD Workshop Manual, each case is different and the State must decide how to weigh each of the various BACT factors. North Carolina is concerned that the application of EPA's DRAFT suggested a top-down process will result in decisions that are inconsistent with the Congressional intent of PSD and BACT. The following are passages from the legislative history of the Clean Air Act and provide valuable insight for state agencies when making BACT decisions.

> The decision regarding the actual implementation of best available technology is a key one, and the **committee places this responsibility with the State**, to be determined on a case-by-case judgment. It is recognized that the phrase has broad flexibility in how it should and can be interpreted, depending on site.

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[1] See, http://es.epa.gov/oeca/enforcement/envappeal.html for various PSD appeals board decisions including standard for review.

[2] North Carolina has full authority to implement the PSD program, 40 CFR Sec. 52.1770

> In making this key decision on the technology to be used, the State is to take into account energy, environmental, and economic impacts and other costs of the application of best available control technology. **The weight to be assigned to such factors is to be determined by the State.** Such a flexible approach allows the adoption of improvements in technology to become widespread far more rapidly than would occur with a uniform Federal standard. The only Federal guidelines are the EPA new source performance and hazardous emissions standards, which represent a floor for the State's decision.
>
> This directive enables the State to consider the size of the plant, the increment of air quality which will be absorbed by any particular major emitting facility, and such other considerations as anticipated and desired economic growth for the area. This allows the States and local communities to judge how much of the defined increment of significant deterioration will be devoted to any major emitting facility. If, under the design which a major facility proposes, the percentage of increment would effectively prevent growth after the proposed major facility was completed, the State or local community could refuse to permit construction, or limit its size. **This is strictly a State and local decision; this legislation provides the parameters for that decision.**
>
> One of the cornerstones of a policy to keep clean areas clean is to require that new sources use the best available technology available to clean up pollution. One objection which has been raised to requiring the use of the best available pollution control technology is that a technology demonstrated to be applicable in one area of the country in not applicable at a new facility in another area because of the differences in feedstock material, plant configuration, or other reasons. **For this and other reasons the Committee voted to permit emission limits based on the best available technology on a case-by-case judgment at the State level. [emphasis added]**. This flexibility should allow for such differences to be accommodated and still maximize the use of improved technology.
>
> Legislative History of the Clean Air Act Amendments of 1977.

The BACT analysis provided by Arauco for the proposed Project was conducted consistent with the above BACT definition as well as EPA's five step "top-down" BACT process. The "top down" methodology results in the selection of the most stringent control technology in consideration of the technical feasibility and the energy, environmental, and economic impacts. Control options are first identified for each pollutant subject to BACT and evaluated for their technical feasibility. Options found to be technically feasible are ranked in order of their effectiveness and then further evaluated for their energy, economic, and environmental impacts. In the event that the most stringent control identified is selected, no further analysis of impacts is performed. If the most stringent control is ruled out based upon economic, energy, or environmental impacts, the next most stringent technology is similarly evaluated until BACT is determined.

After establishing the baseline emissions levels required to meet any applicable NSPS, NESHAPs, or SIP limitations, the "top-down" procedure followed for each pollutant subject to BACT is outlined as follows:

- Step 1: Identify of all available control options - from review of EPA RACT/BACT/LAER Clearinghouse (RBLC), agency permits for similar sources, literature review and contacts with air pollution control system vendors.
- Step 2: Eliminate technically infeasible options - evaluation of each identified control to rule out those technologies that are not technically feasible (i.e., not available and applicable per EPA guidance).
- Step 3: Rank remaining control technologies - "Top-down" analysis, involving ranking of control technology effectiveness.
- Step 4: Evaluate most effective controls and document results – Economic, energy, and environmental impact analyses are conducted if the "top" or most stringent control technology is not selected to determine if an option can be ruled out based on unreasonable economic, energy or environmental impacts.
- Step 5: Select the BACT – the highest-ranked option that cannot be eliminated is selected, which includes development of an achievable emission limitation based on that technology.

Project description

As stated in the application:

> The Moncure mill recently completed a modification to the burner configuration in the MDF dryer (ES-02) to replace the backup natural gas burner in the dryer with two 33 MMBtu/hr burners (ES-02C and ES-02D). The previous 78 MMBtu/hr natural gas-fired dryer burner, labeled as ES-02C, often did not produce high-quality product and was unable to dry wood at the same capacity as the wood-fired burners. The 2017 project decreased the total heat input capacity of the back-up natural gas burners by replacing a single 78 MMBtu/hr burner with two 33 MMBtu/hr burners. The burner replacement allowed the mill to operate the dryer, while running on natural gas, at an equivalent rate to the unit when burning wood, while maintaining product quality This change did not allow the mill to increase rates beyond the pre-project maximum rates.
>
> With this application, Arauco is proposing changes that will increase throughput rate (e.g., faster line speed) in the MDF mill. This is a separate project from the burner replacement project, as this proposed project is not addressing quality or equipment concerns, but rather seeks to increase total throughput in the mill by debottlenecking some processes. Since the burner replacement project has not yet established actual emission and the baseline period occurred prior to their installation, Arauco has elected to incorporate any increases associated with that project into the project emissions increases for the projects described in Section 2.3 as a conservative means to simplify the emission increase calculations. However, Arauco maintains that these projects are independent and maintains that they could be separated for comparison against the PSD SER.

To determine PSD review applicability, the Permit application included the following summary of emission calculations. For all pollutants, the baseline period was January 2015 through December 2016.

Table 3-3. PSD Applicability of Proposed Project

Emissions	Total PM [1] (tpy)	PM_{10} (tpy)	$PM_{2.5}$ (tpy)	VOC (tpy)	SO_2 (tpy)	NO_x (tpy)	CO (tpy)	Lead (tpy)
(B) Projected Actual Emissions	92.30	92.30	91.95	426.50	9.82	143.68	250.90	0.02
(A) Baseline Actual Emissions	83.83	83.83	81.95	328.90	9.07	127.71	224.34	0.02
Total Change (B-A)	8.47	8.47	9.99	97.60	0.75	15.97	26.56	0.00
SER	25	15	10	40	40	40	100	0.6
% of SER	34%	56%	100%	244%	2%	40%	27%	< 1%
Exceeds?	No	No	No	YES	No	No	No	No

1. Total PM emissions set equal to PM_{10} emissions.

Arauco is located in Chatham County which is currently designated as attainment or unclassifiable for all criteria pollutants. Wood products manufacturing facilities are not on the list of 28 named source categories in the PSD permitting program. Thus, the potential emissions from the facility are compared to the PSD major source threshold of 250 tons per year (tpy) for each criteria pollutant to determine applicability. The facility's potential emissions currently exceed 250 tpy each of VOC, NOx and CO, thus the facility is an existing PSD major source. As a major PSD source, the proposed project emission increases are compared against the pollutant-specific SERs.

As seen in the table above, note that only the SER for VOC (40 tpy) was exceeded. Thus, the following PSD review will be limited to VOC emissions from the MDF mill. Although many sources at the MDF mill emit VOCs, most are relatively small contributors. The following table shows for each VOC emitting source of the MDF Mill, the baseline emissions, the projected actual emissions and the relative contribution to the projected total emissions. Recall only the sources highlighted are undergoing a physical modification and thus are the only sources subject to a BACT review.

Table IV.1

	baseline emissions	projected actual emissions	percentage of projected actual emissions
Source	tpy	(tpy)	%
Refiner Abort (ES-01)	--	--	
Energy Abort (ES-02A)	0.46	0.09	0.02
Ness Burners (ES-18, 19, 20)	**0.44**	**0.84**	**0.20**
Dryers, Energy System (ES-02/06B)	284.49	368.82	86.48
MDF Press [1] (ES-16)	**13.05**	**16.58**	**3.89**
Fiber Sifter System (ES-03)	8.10	10.62	2.49
Forming Line Clean-up (ES-04)	8.10	10.62	2.49
Mat Reject System (ES-05)	8.10	10.62	2.49
Saws (ES-07)	**0.77**	**0.98**	**0.23**
Primary Sander (ES-08)	0.77	0.98	0.23
Finishing Sander (ES-10)	0.77	0.98	0.23
Dry Sawdust Silo (ES-13)	1.32	1.74	0.41
Recycled Fiber Silo #1 (ES-09)	0.28	0.54	0.13
Recycled Fiber Silo #2 (ES-15)	0.28	0.54	0.13
Sanderdust Silo #1 (ES-12)	0.93	1.21	0.28
Sanderdust Silo #2 (ES-17)	0.93	1.21	0.28
Emergency Generator (ES-21)	--	--	--
Emergency Generator (I-ODG)	--	--	--
Emergency Fire Pump (I-DFP)	--	--	--
Gasoline Storage Tank (I-GAS)	0.13	0.13	0.03
Diesel Storage Tanks	1.05E-03	1.05E-03	2.45E-04
Other Storage Tanks (Various)	--	--	--
Total Emissions	**328.90**	**426.50**	**100**

1. Pollutants emitted from same emission point as dryer and energy system.

The following tables summarizes what the throughputs and capacities of the MDF mill were during the baseline period and what they are projected to be after the modification is completed.

Baseline Throughputs for MDF Plant [1]

Activity and Usage Description	Baseline Throughput
Hours of Operation	7,182 hr/yr
Mat Reject	493 hr/yr
Refiner Abort	161 hr/yr
Energy System (Teaford) Abort	53,618 MMBtu/yr
Maximum Press Production	153,502 MSF 3/4" per year
MDF Plant Production - SW	197,559 ODMT/yr
Natural Gas Combustion	163,758 MMBtu/yr
Furnace Wood Combustion	671,702 MMBtu/yr

1. Baseline throughputs are based on the 12-month average of throughput for the 24-month period of January 2015, through December 2016.

Projected Throughputs for MDF Plant

Activity and Usage Description	Projected Throughput
Hours of Operation	8,759 hr/yr
Mat Reject	876 hr/yr
Refiner Abort	175.2 hr/yr
Energy System (Teaford) Abort	10,000 MMBtu/yr
Energy System (Teaford) Abort	49 hr/yr
Dryer Natural Gas Usage	10 %
Maximum Press Production	195,000 MSF 3/4" per year
MDF Dryer Throughput	259,000 ODMT/yr
Natural Gas Combustion - Ness Burners	312,000 MMBtu/yr
Furnace Wood Combustion	773,540 MMBtu/yr

Note that the facility is projecting that the modifications will allow for an increase in press production over the baseline period production of 27% and a roughly equal increase in dryer throughput of 31%.

Current BACT Limits

The MDF mill underwent a complete PSD review for VOCs in 2017 which resulted in the following BACT limits being placed in permit no. T47, issued August 30, 2017, roughly just one year ago.

Table 2.2.B.2

Equipment/ Process	ID No.	Emission Limits*	Control Technology
MDF Facilities Operations			
Energy System	ES-02-A	2.88 lb WPP1** VOC/ODMT (24-hour average)	Biofilter (ID No. CD18)
Two Stage Boiler System with backup natural gas burners	ES-02-B ES-02-C ES-02-D	2.88 lb WPP1 VOC/ODMT (24-hour average)	
MDF Board Cooler and Press Hall	ES-06-B	2.88 lb WPP1 VOC/ODMT (24-hour average)	
MDF Press	ES-16	0.17 lb WPP1 VOC/MSF (24-hour average)	Biofilter (ID No. CD18)
MDF Woodworking Operations			
Fiber Sifter System	ES-03	0.082 lb WPP1 VOC/ODMT	None
Forming Line Clean-Up System	ES-04	0.082 lb WPP1 VOC/ODMT	
Mat Reject System	ES-05	0.082 lb WPP1 VOC/ODMT	
Saw System	ES-07	0.01 lb WPP1 VOC/MSF	
Sander System No. 1 (Primary sander)	ES-08	0.01 lb WPP1 VOC/MSF	
Sander System No. 2 (Finishing Sander)	ES-10	0.01 lb WPP1 VOC/MSF	
Recycled Fiber Silo No. 1	ES-09	0.082 lb WPP1 VOC/ODMT	
Recycled Fiber Silo No. 2	ES-15	0.082 lb WPP1 VOC/ODMT	
Sander Dust Silo No. 1	ES-12	0.268 lb WPP1 VOC/ODMT	
Sander Dust Silo No. 2	ES-17	0.268 lb WPP1 VOC/ODMT	
Dry Sawdust Silo Filter	ES-13	0.268 lb WPP1 VOC/ODMT	
Other Emission Sources in the MDF Plant			
Diesel Fuel-fired Emergency Generators	ES-21 I-DFP	Work practice standards and maintenance as required by 40 CFR 40 Part 63 Subpart ZZZZ and CFR 40 Part 60 Subpart IIII as applicable	None
Natural gas-fired hot oil heaters	ES-18, ES-19, ES-20	Proper design, maintenance, and operating practices	None
Gasoline storage tank Diesel storage tanks	I-Gas Not permitted	Proper design, maintenance, and operating practices	None

* 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 in condition a. 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.

** Wood Products Protocol 1 (WPP1) as provided in U.S. EPA, document entitled, "Interim VOC Measurement Protocol for the Wood Products Industry," July 2007.

BACT Discussions

Finishing Area Saws (ES-07)
The finishing area saws are primarily PM emitting sources controlled by bagfilters and also emit small amounts of VOC. Note that after the modification this source is expected to emit less than 1 tpy of VOC.

The current BACT limit of 0.01 lb WPP1 VOC/MSF was an emission factor based on source testing from a similar facility that was incorporated into Permit no. T43 as an emission factor to be used in PSD avoidance calculations. During the BACT review process for permit no. T47, all technologies were eliminated and this emission factor became the BACT as a manifestation of the proper operation and maintenance according to the manufacturers' recommendations.

The permit application at Section 5.6 steps through the BACT process, but as expected, given the low level of VOC emissions, the BACT as proposed is unchanged from the existing BACT limit. No need for further discussion.

Thus, the DAQ agrees that the proposed VOC BACT of 0.01 lb WPP1 VOC/MSF with associated performance of inspections and maintenance as recommended by the manufacturer, is reasonable considering the goals of BACT which takes "*into account energy, environment, and economic impacts and other costs, determines is achievable... for control of such a pollutant.*"

Three natural gas-fired hot oil heaters (24 million Btu per hour maximum heat input each) ES-18, ES-19, and ES-20

The increase in heat input to the hot oil heaters will allow increased heat input into the MDF press and hence allow for increased production at the MDF mill. The hot oil heater emissions of VOC are very low as they are the result of natural gas combustion only. Note that after the modification this source is expected to emit less than 1 tpy of VOC.

During the BACT review process for permit no. T47, all technologies were eliminated and proper design, maintenance, and operating practices were deemed as BACT. These practices are the same as those found in the Case by Case MACT (i.e., 112(j) permit condition at Section 2.1 D.5, and upon the effective date of the MACT 5D (i.e., 112(d) condition, the requirements found at Section 2.1 D.6. In other words, BACT was determined to be equivalent to the effective MACT requirements.

The permit application at Section 5.4 steps through the BACT process, but as expected, given the low level of VOC emissions, the BACT as proposed is unchanged from the existing BACT limit. No need for further discussion.

The BACT in the permit will remain as proper design, maintenance, and operating practices. However, the monitoring recordkeeping and reporting will be revised to reflect that the hot oil heaters will be subject to new source MACT 5D requirements upon startup (see 02D .1111 discussion elsewhere).

Thus, the DAQ agrees that the proposed BACT of proper design, maintenance, and operating practices as specified under MACT 5D, is reasonable considering the goals of BACT which takes "*into account energy, environment, and economic impacts and other costs, determines is achievable... for control of such a pollutant.*"

Press (ES-16):

As stated above (but repeated verbatim given the likely focus of PSD review), the proposed upgrade will improve feeds from the outlet of the press and optimize transfer to the board cooler from the MDF press. These efficiency increases will reduce downtime and may allow increased press rates. The increased rate and decreases in downtime may result in an increase in direct VOC emissions from the press as well as associated sources of VOC.

Emissions from the press are commingled with the:

- refiner (ES-01)
- the wood-fired energy system (ES-02-A), that supplies direct heat to the two stage dryer system (ES-02-B)
- Three backup natural gas-fired dryer burners (ES-02-C-1, -C-2 and -D) that supply direct heat to the two stage dryer system (ES-02-B)

- MDF Board cooler (ES-06-B)

All of the emissions from these operations are routed to the two parallel venturi scrubbers (CD02 and CD14) which are then routed to the biofilter.

Table IV.1 above shows that increase in emissions associated with the press alone is approximately 3.5 tpy VOC (16.58 - 13.05 tpy) although the project itself could allow for an increase of approximately 97.6 tpy VOC (Table 3.3) MDF mill-wide. Recall however, only the portion of the commingled emissions of the press are subject to BACT review.

It is worth noting that the BACT review process for permit no. T47 considered all the commingled emissions now controlled by the biofilter. The analysis considered the baseline VOC emissions to be subjected to BACT to be 810 tpy. During that analysis all other technologies/strategies were eliminated and 50% control by biofilter was determined to be BACT.

The permit application at Section 5.5 steps through the BACT process, but as expected, given the low level of VOC emissions increase from the press, the BACT as proposed is unchanged from the existing BACT limit. No need for further discussion. Even if all of the commingled emissions were subjected to a BACT revaluation at this time, given the proximity in time to the last evaluation and the similarity in emissions to be reduced, it is expected that the BACT determination would reach the same conclusion.

The current permit effectively requires the Permittee to comply with the monitoring and reporting activities required under MACT 4D for the biofilter. The language however was included in the permit prior to the inclusion of specific biofilter language under the MACT 4D condition. Wherever possible the language in the PSD condition will be revised and streamlined to reference the MACT 4D requirements elsewhere in the permit.

A source test for VOC will be required within 180 days after the issuance of the permit or on an alternate date approved by the DAQ, consistent with General Condition JJ and the testing requirements of MACT 4D that apply to the establishment of biofilter monitoring parameters, since the monitoring and recordkeeping requirements for BACT were intended to be the same as those for the MACT.

The Permitee has already conducted its initial testing under MACT 4D and demonstrated compliance with the 90% DRE formaldehyde option. However, it did not conduct any testing for VOC. Hence, the BACT for the biofilter controlled sources has not been verified even at the current MDF Mill production levels. The Permittee plans to retest the biofilter prior to the issuance of the revised permit to widen the biofilter bed temperature range as allowed under the MACT. The Permittee has requested that if VOC testing occurs concurrent with that MACT testing could it satisfy the initial VOC testing requirement included in the revised draft permit. The Permittee is not confident when the increase in throughput on a short term rate basis (e.g., per hour basis) will occur, since the project will also result in increased up-time which would not require an increased in short term throughput to achieve increased production on a longer term basis (e.g., day, month , year). Given the subsequent (e.g., after the initial) testing for VOC will be required to be consistent with the MACT, which will occur every two years, it seems more important to establish the performance of the biofilter with respect to total VOC destruction at the nearest opportunity. Thus, the Permit will allow for the testing prior to the issuance of the revised permit to satisfy the initial PSD testing requirement. The request was made on September 28, 2018, so the testing condition will include the following statement.

> Testing shall be completed within 180 days after the issuance of permit no. 03449T50 unless an alternate date is approved by the DAQ. This alternate date may include any testing occurring after September 28, 2018.

In summary, the DAQ agrees that the proposed BACT utilizing the biofilter to achieve a 50% reduction in overall VOC emissions is reasonable considering the goals of BACT which takes "*into account energy, environment, and economic impacts and other costs, determines is achievable... for control of such a pollutant.*"

<u>Revisions to the BACT emission limits for sources controlled by the biofilter</u>

As discussed above, it is the intent of the BACT emission limits for the press to remain unchanged as well as the BACT for all the other sources controlled by the biofilter. However, during review it was discussed with the permittee

that the form of the BACT emission limits for the sources controlled by the biofilter were not practically enforceable. To date, these BACT limits have not been verified by source testing. For this subset of sources controlled by the biofilter the BACT limits included in the permit were in units of lb WPP1[3] VOC per unit of production (either ODMT or MSF). These limits were calculated based on uncontrolled emission estimates controlled by the biofilter at a 50% destruction removal efficiency (DRE). Since the emissions are all commingled before reaching the biofilter, verifying the determination of the BACT limits individually for each emission source through source testing of the mill in typical operation is impractical. It is more practical to incorporate the BACT limit explicitly as 50% VOC DRE for all sources controlled by the biofilter. At the request of the Permitee, the BACT limits will be revised in this manner.

All these revisions to the permit condition (as well as others) will be listed in the Table of changes found in Section VII of this permit review.

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[3] Wood Products Protocol 1 (WPP1) as provided in U.S. EPA, document entitled, "Interim VOC Measurement Protocol for the Wood Products Industry," July 2007.

Class II Area Significant Impact Air Quality Modeling Analysis

A significant impact analysis was conducted only for VOC's as an ozone precursor given that project emission increases were below SERs for the other PSD pollutants with Class II Area Significant Impact Levels (SIL).

Class II Area Tier 1 Screening Analysis for Ozone Precursors

A Tier 1 screening analysis was conducted to evaluate project precursor emissions impacts on secondary formation of ozone in Class II areas. The screening analysis was based on methodologies taken from EPA's draft *Guidance on the Development of Modeled Emission Rates for Precursors (MERPs) as a Tier I Demonstration Tool for Ozone and $PM_{2.5}$ under the PSD Permitting Program*. MERPs are defined as the screening emission level (tpy) above which project precursor emissions would conservatively be expected to have a significant impact on secondary $PM_{2.5}$ or ozone formation. A MERP value is developed for each precursor pollutant from photochemical modeling validated by EPA and a "critical air quality threshold". The MERPs guidance relies on EPA's 2016 draft SILs for $PM_{2.5}$ and ozone as the critical air quality threshold to develop conservative MERPs values. As such, NO_X and VOC project emissions were assessed by separately derived ozone MERPs values. The project impacts on secondary ozone were determined by summing the VOC project emissions as a percentage of the VOC MERP with the NO_X project emissions as a percentage of the NO_X MERP. A value less than 100% indicates that the combined impacts of VOC and NOx will not exceed the critical air quality threshold. As shown in Table 2, project impacts on 8-hour ozone were below the 100% threshold demonstrating that the project will not cause or contribute to a violation of the NAAQS.

Table 2 – Results of Tier I Screening Analysis for Ozone Precursors

Precursor	MERP (TPY)	Emission Increase (TPY)	Percentage of MERP
NOx	107	15.97	15 %
VOC	814	97.6	12 %
Total			27 %

Class II Area Full Impact Air Quality Modeling Analysis

Class II Area NAAQS and PSD Increment full impact analyses were not required because project emission increases were below SERs for PSD pollutants with established NAAQS and Class II Area PSD Increments.

Additional Impacts Analysis

Additional impact analyses were conducted for growth, soils and vegetation, and visibility impairment. These analyses are discussed in the following sections.

Growth Impacts

The Arauco plant is an existing facility and there will be no additional permanent jobs added due to the proposed project. Therefore, this project is not expected to cause a significant increase in growth in the area.

Soils and Vegetation

VOCs are regulated as precursors to tropospheric ozone. Ozone is formed by the interaction of NO_x, VOC and sunlight. Elevated ozone concentrations can damage plant life and reduce crop production. The Arauco Moncure mill is located in Chatham County which is classified as attainment or unclassifiable for NO_2 and ozone. The Tier 1 Screening Analysis for Ozone Precursors estimated that Arauco's impact on ozone would be 27% of the MERP. Therefore, this project is not expected to cause a significant impact on soil and vegetation.

Class II Visibility Impairment Analysis

A Class II visibility impairment analysis was not conducted since there are not any visibility sensitive areas within the Class II Significant Impact Area.

Class I Area - Additional Requirements

There are four Federal Class I Areas within 300 km of the Arauco project – Swanquarter NWR, Linville Gorge Wilderness Area, James River Face Wilderness, and Cape Romain National Wildlife Refuge. The Federal Land Manager for each of those areas was contacted and none of them required any analysis; thus, no analysis was conducted.

Class I Area Significant Impact Level Analysis

A Class I Area significant impact screening analysis was not required because project emission increases were below SERs for PSD pollutants with established Class I PSD Increments.

Class I Increment/Air Quality Related Values (AQRV) Regional Haze Impact and Deposition Analyses

The project does not include significant emissions of pollutants with established Class I Area Increments or Deposition Analysis Thresholds. The project also does not include significant emissions of visibility-impairing pollutants such as NO_X, SO_2, $PM_{2.5}$, and PM_{10}. Therefore, analysis of project impacts on Class I Area Air Quality Related Values (AQRVs) was not required.

PSD Air Quality Modeling Result Summary

Based on the PSD air quality ambient impact analysis performed, the proposed Arauco Panels USA LLC modification will not cause or contribute to any violation of the Class II NAAQS, PSD increments, Class I increments, or any FLM AQRVs.

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

NSPS
See discussion in Section IV for all NSPS implications.

NESHAP/MACT
The facility is a major source of HAP. See discussion in Section IV for all MACT implications.

PSD
Chatham County is in attainment for all pollutants. See discussion in Section V for the implications of this modification with respect to PSD.

Chatham County has triggered increment tracking under PSD for PM10, SO2 and NOx.

For purposes of increment tracking, hourly increases will be calculated as follows:

	PM10	SO2	NOx
baseline emissions, tpy	83.83	9.07	127.71
projected actual emisisons, tpy	92.30	9.82	143.68
difference, tpy	8.47	0.75	15.97
projected hours of operation	8,760	8,760	8,760
estimated hourly increases, lb/hr	0.19	0.02	0.36

Note all increases are less than 1 lb/hr.

CAM
This modification will not result in triggering CAM requirements for any current sources. See discussion in Section IV for the implications of this modification with respect to the existing CAM conditions.

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
See discussion in Section IV.

VII. Compliance History

The facility was last inspected by Will Wike of the Raleigh Regional Office on September 26, 2017. He states in the inspection report:

> Based on observations made during the inspection, the facility appears to be in compliance with the exception of the ongoing violations covered under the 2015 SOC. It is recommended that an annual inspection be performed within the next 12 months.

From the same inspection report is the following compliance history summary for the past five years.:

Five Year Violation History:

Date	Letter Type	Rule Violated	Violation Resolution Date
04/20/2017	NOV/NRE	2D .0530 Prevention of Significant Deterioration	05/12/2017
04/20/2017	NOV/NRE	2D .0521 Control of Visible Emissions	05/12/2017
04/20/2017	NOV/NRE	2D .1111 Maximum Achievable Control Technology	05/12/2017
04/20/2017	NOV/NRE	2D .0512 Particulates Wood Products Finishing Plants	05/12/2017
04/20/2017	NOV/NRE	2Q .0317 Avoidance Conditions	05/12/2017
10/12/2016	NOV/NRE	2Q .0317 Avoidance Conditions	11/04/2016
10/12/2016	NOV/NRE	2D .0512 Particulates Wood Products Finishing Plants	11/04/2016
10/12/2016	NOV/NRE	2D .0515 Particulates Miscellaneous Industrial Processes	11/04/2016
10/12/2016	NOV/NRE	Permit Permit Condition	11/04/2016
10/12/2016	NOV/NRE	2D .0521 Control of Visible Emissions	11/04/2016
10/23/2015	NOV/NRE	Part 63 - NESHAP/MACT Subpart DDDD Plywood and Composite Wood Products Mfg.	Pending
03/12/2013	NOV/NRE	2D .0521 Control of Visible Emissions	04/01/2013
03/12/2013	NOV/NRE	2D .0530 Prevention of Significant Deterioration	04/01/2013
03/12/2013	NOV/NRE	Part 63 - NESHAP/MACT Subpart DDDD Plywood and Composite Wood Products Mfg.	04/01/2013

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

In accordance with 40 CFR 51.166(q), public participation, the reviewing authority (NCDAQ) shall meet the following:

1) Make a preliminary determination whether construction should be approved, approved with conditions, or disapproved.

   This document satisfies this requirement providing a preliminary determination that construction should be approved consistent with the permit conditions described herein.

2) Make available in at least one location in each region in which the proposed source would be constructed a copy of all materials the applicant submitted, a copy of the preliminary determination, and a copy or summary of other materials, if any, considered in making the preliminary determination.

   This preliminary determination, application, and draft permit will be made available in the Raleigh Regional Office and in the Raleigh Central Office, with the addresses provided below.

Raleigh Regional Office 3800 Barrett Drive Raleigh, NC 27609	Raleigh Central Office 217 West Jones Street Raleigh, NC 27603

   In addition, the preliminary determination and draft permit will be made available on the NCDAQ public notice webpage.

3) Notify the public, by advertisement in a newspaper of general circulation in each region in which the proposed source would be constructed, of the application, the preliminary determination, the degree of increment consumption that is expected from the source or modification, and of the opportunity for comment at a public hearing as well as written public comment.

   The NCDAQ prepared a public notice that will be published in a newspaper of general circulation in the region.

4) Send a copy of the notice of public comment to the applicant, the Administrator and to officials and agencies having cognizance over the location where the proposed construction would occur as follows: Any other State or local air pollution control agencies, the chief executives of the city and county where the source would be located; any comprehensive regional land use planning agency, and any State, Federal Land Manager, or Indian Governing body whose lands may be affected by emissions from the source or modification.

   The NCDAQ will send the public notice to the Chatham County Manager at PO Box 1809, Pittsboro, NC 27312.

5) Provide opportunity for a public hearing for interested persons to appear and submit written or oral comments on the air quality impact of the source, alternatives to it, the control technology required, and other appropriate considerations.

   The NCDAQ public notice provides contact information to allow interested persons to submit comments and/or request a public hearing.

6) With respect to Title V permitting procedures under 15A NCAC 02Q .0500, this application will be processed as a two-step significant modification pursuant to 15A NCAC 02Q .0504. The Permittee shall file an amended application following the procedures of Section 15A NCAC 02Q .0500 no later than 12 months after issuance of permit no. 03449T50.

IX. Changes Implemented in Revised Permit

Existing Condition No.	New Condition No.	Changes
Cover Letter	Same	• Updated permit revision numbers, issue and effective dates, etc.
insignificant activities list	Same	NA
Permit, page 1	Same	• Revised dates, permit numbers, etc.
Section 1, Permitted equipment List	Same	For hot oil heaters (ID Nos. ES-18, -19 and -20) • Revised heat inputs from 26 to 30.4 MMBtu/hr each) • Removed reference to Case by Case MACT • Added reference to MACT DDDDD • Added 02Q .0504 footnote
2.1 C		
Table 2.1.C	Same	• Fixed a typographical error. The descriptor for ES-06-B appeared in the Table two different ways. The incorrect descriptor was removed. • Removed reference to all venturi scrubber exhaust points. Now that the biofilter is installed the emission point is that of the biofilter, identified as emission point EP18. •
C.1. c	Same	• Removed reference to testing the venturi scrubber's emission points and added reference to testing the biofilter emission point (EP18)
C.2.c	Same	• Removed reference to all venturi scrubber exhaust points. The Permittee shall reestablish normal VEs within 30 days after the modifications addressed in the application are completed.
C.6 a	same	• Revised condition to reflect the project addressed in the current application • Clarified that the project addressed in application no. .17D was not designed to increase the overall design capacity of the MDF Mill.
C.6 c	same	• Removed reference to VOC • Clarified the duration of time for which records should be kept • Revised recordkeeping to a duration of 10 years since the project involves an increase in design capacity of the MDF Mill
C.6 d	same	• Removed reference to VOC • Revised projected actual emission estimates for the MDF dryer to include the impact of the current project
2.1 D		
emission source table	same	• Revised heat inputs from 26 to 30.4 MMBtu/hr each) •
applicable regulation table	same	• For 02D .1111 ▪ Removed compliance date of May 20, 2019 ▪ Removed reference to one-time energy assessment • Removed reference to 02D .1109
D.1.a	same	• Revised emission limitation from 0.35 to 0.25 lb/MMBtu
D.4.b	same	• Revised recordkeeping requirements to current DAQ standards. A two-year recordkeeping maintenance requirement pursuant to 60.48c(i) was added.
NA	D.4.c	• Added actual startup notification requirements for these sources.
D.5	NA	• Removed Case by Case MACT requirements

Existing Condition No.	New Condition No.	Changes
D.6	D.5	• Removed MACT 5D requirements with a compliance date of May 20, 2019 for existing sources and replaced them with MACT 5D requirements for new sources with a compliance date upon start-up.
2.2 B.2 (02D .0530) PSD condition		
Table 2.2 B.2	Same	• Revised BACT limits for sources controlled by the biofilter to 50% DRE of WPP1 VOC • Corrected description for the MDF dryers and backup burners • Corrected descriptors for ES-06-B and ES-16
c.	same	• Revised testing condition to test for VOCs • Streamline testing requirements to be consistent with MACT 4Dtesting requirements • Testing shall be completed within 180 days after the issuance of permit no. 03449T50 unless an alternate date is approved by the DAQ. This alternate dated may include any testing occurring after September 28, 2018. See review for discussion. • Added a permit application submittal requirement to revise the permit to incorporate the biofilter bed temperatures based on the required testing.
e.	same	• Removed reference to 112(j) requirements. Corrected reference to MACT 5D requirements
f	same	• Streamlined requirements as possible to reference the MACT 4D condition (Section 2.2 A.1). • Added a specific condition to incorporate the biofilter bed temperatures. This condition was not streamlines as the bed temperatures here may be different than those found in the MACT 4D condition
NA	2.2 B.3	• Added a TV application submittal requirement pursuant to 02Q .0504.
Section 2.4	Same	• Revised General conditions from version 5.2, 08/03/2017 to version 5.3, 08/21/2018. Changes consist of: ▪ Condition K was revised to be consistent with the rule 02Q .0513 which was revised effective April 1, 2018. It was revised from: …unless a complete 15A NCAC 02Q .0500 renewal application is submitted at least **nine** months before the date of permit expiration… to …unless a complete 15A NCAC 02Q .0500 renewal application is submitted at least **six** months before the date of permit expiration…

X. Recommendations

TBD