Facility Name: **Telfair Forest Products, LLC**
City: Lumber City
County: Telfair
AIRS #: 04-13-271-00022 Application #: 780227

Date SIP Application Received: N/A
Date Title V Application Received: August 19, 2023
Permit No: 2499-271-0022-V-05-2

Program	Review Engineers	Review Managers
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Introduction

This narrative is being provided to assist the reader in understanding the content of the referenced SIP permit to construct and draft operating permit amendment. Complex issues and unusual items are explained in simpler terms and/or greater detail than is sometimes possible in the actual permit. This permit is being issued pursuant to: (1) Sections 391-3-1-.03(1) and 391-3-1-.03(10) of the Georgia Rules for Air Quality Control, (2) Part 70 of Chapter I of Title 40 of the Code of Federal Regulations, and (3) Title V of the Clean Air Act Amendments of 1990. The following narrative is designed to accompany the draft permit and is presented in the same general order as the permit. This narrative is intended only as an adjunct for the reviewer and has no legal standing. Any revisions made to the permit in response to comments received during the public comment period and EPA review process will be described in an addendum to this narrative.

I. Facility Description

A. Existing Permits

Table 1 below lists the current Title V permit, and all administrative amendments, minor and significant modifications to that permit, and 502(b)(10) attachments.

Table 1: Current Title V Permit and Amendments

Permit/Amendment Number	Date of Issuance	Description
2499-271-0022-V-05-0	May 24, 2021	Title V Renewal
2499-271-0022-V-05-1	July 7, 2021	Change of mailing address

B. Regulatory Status

1. PSD/RACT

Telfair Forest Products, LLC (hereinafter "facility") is not one of the 28 named source categories under Prevention of Significant Deterioration (PSD) regulations. Before the proposed modification, emissions of particulate matter (PM) and volatile organic compounds (VOC) were restricted to no more than 249 tpy, each, to ensure that the facility did not become a PSD major source.

The facility is not subject to any RACT requirements specified in Georgia Rules for Air Quality Control for any specific industry types (all RACT rules other than GA Rules (tt) and (yy)). The facility is located in Telfair County, which is not a named county subject to GA Rules (tt) and (yy). Therefore, the facility is not subject to any RACT requirements.

2. Title V Major Source Status by Pollutant

Table 2: Title V Major Source Status

Pollutant	Is the Pollutant Emitted?	If emitted, what is the facility's Title V status for the Pollutant?		
		Major Source Status	Major Source Requesting SM Status	Non-Major Source Status
PM	YES		✓	
PM_{10}	YES		✓	
$PM_{2.5}$	YES		✓	
SO_2	YES			✓
VOC	YES	✓		
NO_x	YES			✓
CO	YES	✓		
TRS	NO			

H_2S	NO			
Individual HAP	YES			✓
Total HAPs	YES			✓
Total GHG	YES			✓

According to the performance tests conducted on June 2, 2021, the tested after-control PM emission rates were much lower than the associated PM emission factors listed in existing Condition 6.2.2b. With the annual throughput rates that would be limited by the VOC emission limits specified in Conditions 3.2.1 and 3.2.2 of the proposed TV permit amendment, and the 2021 tested PM emission rates, the facility would emit about 53.1 tpy PM. Therefore, the Title V status above for $PM/PM_{10}/PM_{2.5}$ have been updated accordingly. Note that the 53.1-tpy PM is after-controlled; the uncontrolled PM PTE is expected to be greater than 100 tpy.

The table below demonstrates the expected facility-wide PM PTE after the proposed modification based on the most recent PM stack test results for Cyclones CYC2 and CYC3 (performed on June 2, 2021, and February 3, 2021, respectively), Baghouse BGH1 (performed on February 4, 2021), and the Pellet Mill Stack STA (performed on February 5, 2021), and the vendor guarantee PM grain loading for the cyclone controlling DRY4 and expected throughput for Dryer DRY4.

Table 3: Facility-wide PM PTE

Unit	PM (lb/ODT)	Annual Throughput (ODT/yr)	PM (tpy)
DRY2 (CYC2)	0.178	25,000	2.2
DRY3 (CYC3)*	0.196	100,000	9.8
DRY4 (CYC4)	(0.03 gr/dscf) 0.478	165,000	39.4
HM1, HM2, COOL (BGH1)	0.00947	165,000	0.8
PM1-PM6 (STA)	0.0108	165,000	0.9
TOTAL			**53.1**

II. Proposed Modification

A. Description of Modification

On August 19, 2023, the facility submitted Application No. 780227 requesting to construct and install a new dryer (ID No. DRY4) with a 50 MMBtu/hr gas-fired burner (ID No. BUR4) and an associated cyclone (ID No. CYC4), revise its production limits, and revise a portion of the emission factors in Section 6.2 of the Permit. The Dryer 3 burner (ID No. BUR3) will also be converted from wood-fired operation to gas-fired operation at the same 50 MMBtu/hr heat input capacity.

B. Emissions Change

Table 4: Emissions Change Due to Modification

Pollutant	Net Potential Emissions Increase (Decrease) (tpy)	Facility-Wide Post-Mod PTE (tpy)
PM	39.4	53.1
PM_{10}	39.4	53.1
$PM_{2.5}$	39.4	53.1
VOC	249.0	498.0
NO_x	32.4	52.5
CO	(23.4)	115.2
Individual HAP	1.4	2.9
Total HAPs	3.26	12.7

Please note that the above emission estimates for the existing facilities were mostly calculated using the latest performance test results for nitrogen oxides (NOx), carbon monoxide (CO), particulate matter (PM), single hazardous air pollutant (HAP), and combined HAP. For Dryer DRY4, NOx and CO AP-42 emission factors were used, vendor guaranteed grain loading was used for PM, and HAP emission factors close to DRY3's test results were used.

VOC PTE is based on the VOC emission limits specified in Conditions 3.2.1 and 3.2.2 of the proposed Title V permit amendment.

C. PSD Applicability

Existing Condition 2.1.1. of the Permit limited facility-wide VOC and PM emissions to no more than 249 tpy. After the addition of the proposed dryer (ID No. DRY4), the facility will become a PSD major source. However, the modification described in Application No. 780227 would not trigger a PSD review because the facility applied the "one-time doubling" provision, which states that a source may become PSD major without undergoing PSD review if the following are fulfilled:

1. The facility is not a PSD major source (i.e., emissions of all PSD criteria pollutants are below 250 tpy) before the modification, AND

2. The modification is not major by itself under PSD regulations (i.e., the increase in emissions of any single criteria pollutant is below 250 tpy).

The facility meets both of the above criteria.

The existing equipment at the facility (Dryers DRY2 and DRY3, Hammermills HM1 and HM2, Pellet Mills PM1-PM6, and Cooler COOL) will be subject to a collective VOC emission limit of 249 tpy. The proposed dryer (ID No. DRY4) will be subject to a separate 249 tpy VOC emission limit. . These limits were separately included in Conditions 3.2.1 and 3.2.2 of the proposed TV permit amendment.

As discussed previously, with the after-control PM emission rates obtained in the June 2, 2021 performance tests, the facility-wide PM PTE would be much lower than the PSD major source threshold of 250 tpy. As long as the facility operates the cyclones (ID Nos. CYC2, CYC3, and CYC4) and baghouse (ID No. BGH1) whenever the associated dryers (ID Nos. DRY2, DRY3, and DRY4), dry hammermills (ID Nos. HM1 and HM2), and pellet cooler (ID No. COOL) are in operation, its post modification PM emissions will always stay far below 250 tpy. No PSD review would be triggered by the proposed modification. In order to ensure this, the facility-wide PM emission limit specified in existing Condition 2.1.1 of TV Permit No. 2499-271-0022-V-05-0 has been replaced with the control device operating requirements specified in new Condition 3.2.3 of the proposed TV permit amendment.

III. Facility Wide Requirements

A. Emission and Operating Caps:

Pre-modification, the facility was subject to the facility-wide VOC limit in order to avoid being a PSD major source for VOC. Since the facility proposed to avoid triggering a PSD review by taking the one-time doubling provision under PSD, the existing units that emit VOC emissions (Dryers DRY2 and DRY3, Hammermills HM1 and HM2, Pellet Mills PM1-PM6, and Pellet Cooler COOL) will continue to be subject to the 249-tpy VOC limit. This existing emission limit does not apply to new Dryer DRY4; therefore, it has been relocated to Section 3.2 of the proposed Title V permit amendment. Dryer DRY4 will be subject to its own 249 tpy limit for VOC.

Existing Condition 2.1.1 also limited facility-wide PM emissions to no more than 249 tpy for PSD avoidance. As explained previously, the facility-wide after-control PM PTE after modification will be 53.1 tpy, which is far below 250 tpy. However, if the PM emitting sources are not controlled by the cyclones and baghouses, the uncontrolled PM PTE from the existing emission units would be greater than 250 tpy, and the uncontrolled PM PTE from new Dryer DRY4 would also be greater than 250 tpy. In order to avoid triggering a PSD review, the numeric emission limit (249-tpy PM) for the existing facility has been replaced with the control device operating requirements specified in new Condition 3.2.3.

The entire facility will continue to be subject to the 10 tpy single HAP and 25 tpy combined HAP emission limits in Existing Condition 2.1.2 in order to avoid being a major source for HAP emissions.

B. Applicable Rules and Regulations

Because the addition of Dryer DRY4 will increase toxic air pollutant (TAP) emissions, the facility performed a toxic impact assessment (TIA) in order to demonstrate compliance with Georgia Air Toxic Guidelines. Potential post-modification TAP emissions were compared with their respective minimum emission rates (MER). Potential emissions of acetaldehyde, acrolein, formaldehyde, and phenol each exceeded their associated MER, as shown in Table 5.

Table 5: PTE of Key HAP and Corresponding MER

Pollutant	CAS No.	Emission Rate (lb/hr)	Emission Rate (lb/yr)	MER (lb/yr)	Greater Than MER?
Acetaldehyde	75-07-0	0.16	1,400	1,110	**YES**
Acrolein	10-70-28	0.45	3,980	4.87	**YES**
Formaldehyde	50-00-0	0.67	5,860	267	**YES**
Methanol	67-56-1	0.32	2,820	30,100	NO
Phenol	10-89-52	0.6	5,260	2,200	**YES**
Propionaldehyde	12-33-86	0.15	1,280	1,950	NO

A toxic impact analysis of the four HAP was performed by calculating the maximum ground level concentration (MGLC) of each pollutant using SCREEN3 modeling and comparing it to its associated acceptable ambient concentration (AAC) value. Emissions from all emission units were conservatively modeled through a single stack. The stack height was assumed to be 20 meters, with a diameter of 2.25 meters. Exhaust velocity was assumed to be 25 meters/second, discharged vertically. A summary of the modeling results is shown in Table 6.

Table 6: Summary of Toxic Impact Analysis

Pollutant	AAC, µg/m3		SCREEN3 Modeling Results/MGCL, µg/m^3			Acceptability of the Predicted MGCL/Ambient Impact	
	15-Minute	Annual	1-Hour	15-Minute	Annual	15-Minute	Annual Impact
Acetaldehyde	4,500	4.55	0.057	0.075	0.0050	Acceptable	Acceptable
Acrolein	23	0.02	0.16	0.21	0.013	Acceptable	Acceptable
Formaldehyde	245	1.1	0.24	0.31	0.019	Acceptable	Acceptable
Phenol	6,000	45.2	0.021	0.28	0.017	Acceptable	Acceptable

Based on a unit emission rate of 1 g/s, the unit MGLC was found to be 2.822 micrograms per cubic meter (µg/m^3), located 849 meters from the stack. The short-term (15-minute) and long-term (annual) MGLC for each pollutant was below its associated acceptable ambient concentration (AAC), and therefore, all pollutants comply with Georgia Air Toxics Guidelines. No further modeling is needed.

MER and AAC values for each HAP were referenced from Appendix A of the Summary of Ambient Impact Assessment of Toxic Air Pollutant Emissions (2018).

C. Compliance Status

The facility was recently issued a Notice of Violation (NOV) for missing some monitoring records. It is working with the Division's Stationary Source Compliance Program to resolve the issue.

D. Permit Conditions

As discussed in Section III.A. of this narrative, Existing Condition 2.1.1 has been removed.

IV. Regulated Equipment Requirements

A. Brief Process Description

Pellet Plant

The pellet plant manufactures wood pellets from a combination of dry material and green sawdust. Dry material is received into hoppers and screened with the accepts conveyed to the dry material bin. Green sawdust is received in the green hopper and screened. The accepts are conveyed to the direct-fired rotary dryer (ID No. DRY2) while the overs sent to the green hammer mill (ID No. HMG) and back to the dryer. Dryer process air is supplied by a wood-fired burner (ID No. BUR2) with a nominal heat input rating of 40 MMBtu/hr. Exhaust from the burner and dryer pass through a common cyclone (ID No. CYC2). A portion of the dryer exhaust is sent back to burner for VOC and HAP destruction. Dryer output is screened and conveyed either to the dry hammermills (ID Nos. HM1, HM2), pellet mill feed bins, or the fuel bin. Dry hammermill output is stored in the pellet mill feed bins that supply six pellet mills (ID Nos. PM1 – PM6) followed by the pellet cooler (ID No. COOL). The dry hammermills and pellet cooler are controlled by a common baghouse (ID No. BGH1). The pellets are screened with the accepts conveyed to the finished pellet handling/storage (ID No. HAND) and the fines conveyed to the dry material warehouse.

Shavings Plant

The shavings plant manufactures wood shavings from southern yellow pine (dried onsite). Tree-length logs are off-loaded, cut to length, and conveyed to the log shavers. The green shavings are screened with the accepts conveyed to one of two direct-fired rotary dryers (ID Nos. DRY3 and DRY4) and the overs sent to pellet mill stock. Dryer process air is supplied by gas-fired burners (ID Nos. BUR3 and BUR4, respectively), each with a nominal heat input rating of 50 MMBtu/hr. Exhaust from the burners and dryers pass through a common cyclone (ID Nos. CYC3 and CYC4, respectively). A portion of the dryer exhaust is sent back to burner for VOC and HAP destruction. Dryer output is screened with the accepts conveyed to a dry shavings bin and to the bagging lines with the fines sent to the fuel bin or the pellet material warehouse.

B. Equipment List for the Process

Table 7: Equipment List for Modification

Emission Units		Air Pollution Control Devices	
ID No.	**Description**	**ID No.**	**Description**
BUR3	Natural Gas-fired Burner 3 50 MMBtu/hr	--	--
BUR4	Natural Gas-fired Burner 4 50 MMBtu/hr	--	--
DRY4	Dryer 4	CYC4	Cyclone

C. Equipment & Rule Applicability

Emission and Operating Caps –

Post-modification, Dryers DRY2 and DRY3, Hammermills HM1 and HM2, Pellet Mills PM1-PM6, and Pellet Cooler COOL are subject to a 249 tpy VOC cap. Dryer DRY4 are subject to a separate 249 tpy VOC cap. As discussed previously, these limits are required to apply the one doubling provisions under the PSD regulation.

The annual throughput limits specified in existing Condition 3.2.1 would work with emission factors that were used before the latest test results to keep the existing facility a minor source under PSD. The VOC emission rates obtained in the latest performance tests are all lower than those in existing Condition 6.2.3b. The pre-modification facility could have produced more than those annual throughput limits and still be a minor PSD source. With the 249-tpy PSD avoidance limit specified in Modified Condition 3.2.1 of the proposed Title V permit amendment, the existing annual throughput limits are not necessary and are therefore removed from the permit.

Applicable Rules and Regulations -

GRAQC 391-3-1-.02(2)(b) – Visible Emissions

Georgia Rule (b) limits visible emissions to no more than 40% opacity. Emissions from Dryer DRY4 will be controlled by Cyclone CYC4, and therefore, emissions from the dryer are expected to comply with Georgia Rule (b).

GRAQC 391-3-1-.02(2)(e) – Particulate Matter from Manufacturing Processes

Georgia Rule (e) limits the rate and amount of PM emissions based on process input weight rate. Because particulate emissions from Dryer DRY4 will be controlled by Cyclone CYC4, they are expected to comply with the Georgia Rule (e) limits.

GRAQC 391-3-1-.02(2)(g) – Sulfur

Georgia Rule (g) limits the sulfur content of fuel combusted in the dryers (ID Nos. DRY2, DRY3, and DRY4) to no more than 2.5% by weight. Dryer DRY4's burner and Dryer DRY3's converted burner will combust only natural gas, which automatically complies with Rule (g) limits.

D. Permit Conditions

Modified Condition 3.2.1 restricts the combined VOC emissions from all Dryers DRY2 and DRY3, Hammermills HM1 and HM2, Pellet Mills PM1-PM6, and Cooler COOL to no more than 249 tpy.

New Condition 3.2.2 restricts VOC emissions from Dryer DRY4 to no more than 249 tpy.

Both Conditions 3.2.1 and 3.2.2 are to avoid triggering a PSD review by this modification.

New Condition 3.2.3 requires the facility to operate Cyclones CYC2, CYC3, and CYC4 and Baghouse BGH1 at all times while the associated emission units are in operation. This would keep the post modification facility-wide PM PTE far below 250 tpy, and therefore avoid triggering a PSD review for PM.

New Condition 3.2.4 restricts the facility to firing only wood in Burner BUR2. Since wood contains minimal amount of sulfur, this requirement subsumes the GA Rule (g) fuel sulfur content limit. TIA was conducted using emission factors associated with wood firing in Burner BUR2; if the facility changes the fuel type for BUR2, a revised TIA may be required.

New Condition 3.2.5 restricts the facility to firing only natural gas in Burners BUR3 and BUR4. Since natural gas contains minimal amount of sulfur, this requirement subsumes the GA Rule (g) fuel sulfur content limit. TIA was conducted using emission factors associated with natural gas firing in Burners BUR3 and BUR4; if the facility changes the fuel type for BUR3 and BUR4, a revised TIA may be required.

The wording in Modified Conditions 3.4.1 and 3.4.2 have been modified to include the modified emission units in Table 3.1.1.

Because New Conditions 3.2.4 and 3.2.5 subsume GA Rule (g) fuel sulfur requirements, Condition 3.4.4 has been deleted from the Permit.

V. Testing Requirements (with Associated Record Keeping and Reporting)

Existing Condition 4.2.1 requires the facility to perform periodic NOx and CO performance tests on the Dryer DRY2 and Dryer DRY3 burners. This Condition was added in Permit No. V-04-2 in an abundance of caution in order to ensure that emissions of NOx and CO remained below their respective 250 tpy PSD major source thresholds as the facility aged over time.

However, emissions testing has repeatedly shown that facility-wide NOx and CO emissions are well below 250 tpy. The results of the most recent stack tests on Dryer DRY2 and Dryer DRY3 (performed on June 2, 2021, and February 3, 2021, respectively) are shown in Tables 8 and 9.

Note that Table 8 includes the facility-wide PTE when Dryer DRY3 burns wood before the modification, while table 9 includes the facility-wide PTE when Dryer DRY3 burns natural gas after the modification. NOx and CO AP-42 emission factors are used to calculate natural gas combustion emissions. In both tables, the facility-wide CO and NOx PTE is each well below 250 tpy, periodic stack testing for those pollutants is no longer necessary and Existing Condition 4.2.1 has been removed from the Permit.

Table 8: NOx and CO PTE for the Rotary Dryers (ID Nos. DRY2 and DRY3) Prior to the Modification

Unit	NOx EF (lb/MMBtu)	CO EF (lb/MMBtu)	NOx (tpy)	CO (tpy)
DRY2 (BUR2)	0.0543	0.452	9.5	79.2
DRY3 (BUR3)	0.0486	0.2714	10.6	59.4
TOTAL			20.1	138.6

Table 9: NOx and CO PTE for the Rotary Dryers (ID Nos. DRY2, DRY3, and DRY4) After the Modification

Unit	NOx EF (lb/MMBtu)	CO EF (lb/MMBtu)	NOx (tpy)	CO (tpy)
DRY2 (BUR2)	0.0543	0.452	9.5	79.2
DRY3 (BUR3)	0.098	0.082	21.5	18.0
DRY4 (BUR4)	0.098	0.082	21.5	18.0
TOTAL			52.5	115.2

Because the 249 tpy PM PSD avoidance limit in Existing Condition 3.2.1 has been removed from the Permit, the PM stack testing requirements have been removed from Modified Condition 4.2.2. The condition now only requires the facility to perform periodic VOC and HAP performance tests on Dryers DRY2 and DRY3, Hammermills HM1 and HM2, Cooler COOL, and Pellet Mills PM1-PM6.

If the results of any performance test required by Condition 4.2.2 exceeds the emission factors included in Section 6 of the Permit, Modified Condition 4.2.3 requires the facility to calculate emissions using the higher emission factors immediately. The facility must also submit a permit application within 180 days of the performance test. Since the NOx and CO testing requirements of existing Condition 4.2.1 are no longer included in the proposed TV permit amendment, the reference of Condition 4.2.1 has been removed from Condition 4.2.3.

New Condition 4.2.5 requires the facility to perform initial VOC and HAP performance tests on Dryer DRY4 within 180 days of initial startup of new Dryer DRY4 and to conduct subsequent performance tests every 36 months.

If the results of any performance test required by Condition 4.2.5 exceeds the emission factors included in Section 6 of the Permit, New Condition 4.2.6 requires the facility to calculate emissions using the higher emission factors immediately. The facility must also submit a permit application within 180 days of the performance test.

VI. Monitoring Requirements (with Associated Record Keeping and Reporting)

Modified Condition 5.2.1 was edited to require the facility to install and operate a device to continuously monitor and record the dryer inlet temperature on Dryer DRY4 in addition to the existing dryers, and to determine each eight-hour rolling average dryer inlet temperature.

Modified Condition 5.2.3 was edited to require the facility to install and operate a device to continuously monitor and record the burner combustion temperature on Dryer DRY4 in addition to the existing dryers, and to determine each three-hour rolling average burner combustion temperature.

Modified Condition 5.2.4 was edited to require the facility to install and operate a pressure drop indicator on Cyclone CYC4 in addition to the existing cyclones and baghouse, and to measure and record the pressure drop at least once per operating day.

Modified Condition 5.2.5 was edited to require the facility to perform daily VE checks of the exhaust from Cyclone CYC4 in addition to the existing cyclones, baghouse, and pellet mill stack, and includes procedures for performing the checks.

Modified Condition 5.2.6 was edited to require the facility to develop and implement a Work Practice and Preventative Maintenance Program for the Dryer DRY4 burner and the Cyclone CYC4 in addition to the existing burners, cyclones, and baghouse. Requirements for the program are listed in the Condition.

Compliance Assurance Monitoring (CAM) Applicability:

An emission unit is subject to the provisions of 40 CFR 64, "Compliance Assurance Monitoring" because:

- It is located at a major source that is required to obtain a Title V Permit. [§64.2(a)]
- It is subject to an emission limitation or standard for the applicable pollutant (PM). [§64.2(a)(1)]
- The facility uses a control device to achieve compliance. [§64.2(a)(2)]
- Potential pre-controlled emissions of the applicable pollutant (particulate matter) from such emission unit are at least 100 percent of major source threshold. [§64.2(a)(3)]

Because Dryer DRY4 is located at a Title V major source, is subject to the GA Rule (e) PM emission standard, uses a control device (Cyclone CYC4) to achieve compliance, and its pre-control emissions of PM are above 100 tpy, it is subject to CAM requirements. However, its after-control PM PTE is expected to be 39.4 tpy, which is less than 100 tpy; DRY4 is not a large pollutant specific emission unit (PSEU). Per 40 CFR 64.5(b), the CAM plan will be included during the next TV renewal.

VII. Other Record Keeping and Reporting Requirements

Modified Condition 6.1.7b.i. requires the facility to report as an exceedance any month during which the twelve-month rolling total VOC emissions from Dryers DRY2 and DRY3, Hammermills HM1 and HM2, Pellet Mills PM1-PM6, and Cooler COOL equal or exceed 249 tons.

Modified Condition 6.1.7b.ii. requires the facility to report as an exceedance any month during which the twelve-month rolling total VOC emissions from Dryer DRY4 equal or exceed 249 tons.

Modified Condition 6.1.7b.iii. requires the facility to report as an exceedance any month during which the twelve-month rolling total emissions of any single HAP equals or exceeds 10 tons.

Existing Condition 6.1.7b.iv. has been removed because the facility is no longer subject to the production limits for Dryers DRY2 and DRY3. Modified Condition 6.1.7b.iv. now requires the facility to report as an exceedance any month during which the 12-month rolling total emissions of all HAPs equal or exceed 25 tons.

Modified Condition 6.1.7c.i. requires the facility to report as an excursion any instance where the 8-hour average temperature of the Dryer DRY2, DRY3, or DRY4 inlets exceeds the maximum dryer inlet temperature specified in Condition 5.2.1.

Modified Condition 6.1.7c.ii. requires the facility to report as an excursion any instance where the 3-hour average temperature of the burners falls below the minimum burner combustion temperature specified in Condition 5.2.3.

Existing Condition 6.1.7d.i. has been removed because the facility is no longer subject to the production limits for Dryers DRY2 and DRY3.

Modified Condition 6.2.1 requires the facility to record the monthly total amount of material dried in Rotary Dryers DRY2, DRY3, and DRY4, and the monthly total amount of dried material processed through Hammermills HM1 and HM2, Pellet Mills PM1-PM6, Pellet Cooler COOL, and Pellet Handling and Storage HAND.

As discussed in Section II.C., the numeric PM PSD avoidance limit in existing Condition 2.1.1 is no longer necessary. Therefore, the facility no longer need to track their actual PM emissions, and existing Condition 6.2.2 has been removed from the Permit.

Modified Condition 6.2.3 requires the facility to calculate monthly VOC emissions from all manufacturing processes (excluding Dryer DRY4) using the records from Condition 6.2.1 and the provided equation and VOC emission factors. The VOC emission factors have been updated based on the facility's most recent VOC stack test results. The facility must also notify the Division if the monthly emissions of VOC exceed 20.7 tons.

Modified Condition 6.2.4 requires the facility to calculate monthly HAP emissions using the records from Condition 6.2.1 and the provided equation and HAP emission factors. The HAP emission factors have been updated based on the facility's most recent HAP stack test results. The facility must also notify the Division if the total monthly emissions of any single HAP exceeds 0.83 tons or total emissions of all HAP exceed 2.08 tons.

As discussed in Section II.C., the numeric PM PSD avoidance limit in existing Condition 2.1.1 is no longer necessary. Therefore, the facility no longer need to track their actual PM emissions, and existing Condition 6.2.5 has been removed from the Permit.

Modified Condition 6.2.6 lists calculations that the facility must perform using the monthly VOC and HAP emission data in Conditions 6.2.3, 6.2.4, and 6.2.7.

New Condition 6.2.7 requires the facility to calculate monthly VOC emissions from Dryer DRY4 using the records from Condition 6.2.1 and the provided equation and VOC emission factor. The facility is required by Condition 4.2.5 to conduct a VOC performance test in order to validate the VOC emission factor in Condition 6.2.7. Although both Dryers DRY2 and DRY3 have shown in tests that the actual VOC emission rates are lower than 3 lbs/ODT, the facility still proposed to use 3 lbs VOC/ODT as DRY4's VOC emission factor before the initial test is conducted. The facility must also notify the Division if monthly VOC emissions exceed 20.7 tons.

Addendum to Narrative

The 30-day public review started on January 10, 2024, and ended on February 9, 2024. The Division received comments from the Southern Environmental Law Center (SELC) on behalf of itself, Georgia Interfaith Power and Light, the Georgia Chapter of the Sierra Club, Dogwood Alliance, Our Children's Earth Foundation, and the Concerned Citizens of Cook County.

The comments and EPD response to the comments are discussed below:

SELC Comments and EPD Responses

SELC Comment No. 1 – As a Synthetic Minor Source, Telfair Cannot Take Advantage of the One-Time-Doubling Exception to Major Source PSD Permitting.

With this application, Telfair is attempting to perform a "one-time-doubling" to circumvent major source PSD permitting. One-time-doubling is an interpretation of the Clean Air Act and EPA's rules that allows for *true* minor sources to become major sources without undergoing PSD. However, the same does not apply to *synthetic* minor sources that have previously agreed to enforceable restrictions on PTE to avoid major source PSD. The so-called Source Obligation Rule and longstanding EPA Guidance are explicit that *only* true minor sources may undertake one-time doubling. Simply put, once a source has agreed to synthetic minor limits, it must either abide by those limits or undergo PSD if it decides to disregard those limits. That is the case with Telfair.

Telfair's current permit contains several synthetic minor limits implemented explicitly to avoid PSD applicability. First, Condition 2.1.1 restricts facility-wide VOC emissions to less than 249 tpy, citing to "40 CFR 52.21 [PSD] Avoidance." Next, Condition 6.2.3 effectively constrains the facility's total production by requiring Telfair to calculate 12-month rolling VOC emissions by multiplying monthly production rates and emission factors to ensure emissions do not exceed the 249 tpy limit. Finally, Condition 3.2.1 places limits on the number of wood dryers Telfair can operate as well as their production limits, again specifically for PSD avoidance.

These limits do not apply to individual units, but to the entire facility. For instance, Condition 2.1.1, which limits facility-wide VOC emissions to 249 tons or less per year, is within the permit section titled "Requirements Pertaining to the Entire Facility." Section 2.1, in particular, is titled "Facility Wide Emission Caps and Operating Limits." Additionally, the draft permit narrative for this modification explains that "[e]xisting Condition 2.1.1. of the Permit limited **facility-wide** VOC and PM emissions to no more than 249 tpy."

Telfair now seeks to eliminate all of these facility-wide synthetic minor limits without undergoing PSD review. As a result, the draft permit explicitly states that the existing permit Condition 2.1.1, limiting facility-wide PTE limit to 249 tons per year, has been "removed." After this modification, the facility would be authorized to emit 498 tons of VOCs per year (585 tpy with fugitive emissions) without undergoing PSD permitting.

This is unlawful. EPA has repeatedly dealt with similar attempts to evade PSD and has consistently held that the Source Obligation Rule requires PSD review in this scenario. For example, when discussing the relaxation of an identical 249 tpy PTE limit, EPA wrote: "[a]lthough the facility-wide emission limit of 249.0 tpy for CO is enumerated in the permit, the permit should also state that if this limit is relaxed at any time, the facility will be subject to the requirements of 40 Code of Federal Regulations (CFR) 52.21(r)(4) [requiring PSD permitting as if construction had never commenced]."

EPA has further explained that:

> [The Source Obligation Rule] simply states that any relaxation of an established limit that would make the project "major" would at that point in time make PSD applicable. That is, the (r)(4) provision must be considered for the life of any project for which enforceable limits were established such that any subsequent requests for a relaxation of the aforementioned limitations will necessitate [PSD review].

Here, the "project" in question is the construction and operation of the entire shavings and pellet mill manufacturing facility, including several furnaces, dryers, log shavers, hammermills, pellet mills, and other equipment. This is the "project" for which the 249 tpy facility-wide limit on VOCs and the other synthetic minor limits were established. Simply adding one new piece of equipment—a third dryer—does not redefine the "project" or the facility for purposes of the facility-wide 249 tpy synthetic minor limit. Moreover, the new dryer is not a separate or stand-alone facility on its own, but instead will be an integral part of the pellet and shavings manufacturing process, alongside the other two dryers, which will produce dried material for the pelletizing and shavings lines.

EPD's one-sentence contention that the **facility-wide** 249 tpy limit does not apply to the new dryer is absurd. The dryer will be part of this facility by any reasonable definition of "facility," and Telfair accepted and has benefited from the facility-wide PTE limit in order to avoid PSD for well over a decade, during which time Telfair made many other modifications that did not redefine the "facility." Simply stated, Telfair's entire operation is currently limited to 249 tons of VOCs per year, but this modification would allow this "facility" to emit 498 tons without undergoing PSD. This relaxation of the facility-wide PTE limit is exactly the kind of circumvention the Source Obligation rule is intended to prevent.

In fact, EPA Region 4 squarely addressed this issue in a 2001 letter to North Carolina authorities in which EPA explained that the rule itself as well as the preamble to the federal PSD regulations "does not provide any support for the idea that a modification would preclude the applicability of the relaxation provision." EPA continued that "[i]f any modification, including a modification that was not "major," would nullify applicability of the relaxation provision, then misuse of the clause would occur," and that "to exclude projects involving a modification easily could lead to an abuse akin to sham permitting." Finally, EPA summarized that "[i]f a source owner elects to accept an enforceable limitation to avoid PSD requirements . . . then a revision of that limitation for any reason (including a physical change) could trigger the relaxation provision."

In sum, Telfair would currently be a major source of VOCs if it had not agreed to enforceable synthetic minor limits that, to date, have allowed the facility to operate without undergoing PSD permitting. As the foregoing makes clear, Telfair cannot now shed those enforceable limits—and double VOC emissions in the process—without undergoing PSD review.

Finally, as discussed below, it is also unconscionable that EPD would allow this abuse of the PSD rules in Telfair County—one of the poorest counties in Georgia (153rd out of 159 counties)—and Lumber City in particular, which has a population that is more than 70% Black and in the 86th percentile (nationwide) for low-income individuals. In particular, despite Telfair's contentions otherwise, about a third of the 585 tons of VOCs the facility would emit are Hazardous Air Pollutants (HAPs)—i.e., pollutants designated by Congress and EPA as especially toxic and/or carcinogenic even in very low concentrations. As such, this unlawful modification would have a substantial negative impact in the community.

Division Response to Comment No. 1:

The PSD one-time doubling rule has historically been applied to synthetic minor sources, which are not explicitly defined in the Source Obligation Rule. The 2001 advisory response letter referenced in Comment No. 1 includes advisory from the EPA that "[if] a source owner elects to accept an enforceable limitation to avoid PSD requirements for an emissions unit or process, then a revision of that limitation for any reason (including a physical change) could trigger the relaxation provision." The facility's existing emission units are currently subject to a facility-wide 249 tpy emission limit on VOCs and PM—"facility-wide," in this case, defined as the entirety of the existing emission units (point sources). The existing point sources that would emit VOC and PM emissions are Dryers DRY2 and DRY3, Dry Hammermills HM1 and HM2, Pellet Mills PM1 – PM6, and Pellet Cooler COOL. Note that the facility is not one of the 28 named PSD source categories, so emissions of criteria pollutants from fugitive sources are not counted toward the facility's emissions.

As discussed in Section I.B.2. of this Narrative, the after-control PM emissions from the existing facility and new modification will be 53.1 tpy, which is far below the PSD major source threshold of 250 tpy. Therefore, the operating practices specified in new Condition 3.2.3 replaced the 249-tpy PM emission limit in existing Condition 2.1.1. Regarding PM, this does not involve the one-time doubling under the PSD regulations.

For VOC emissions, the Division simply relocated the 249-tpy VOC emission limit from Section 2.1 to Section 3.2 of the permit (Condition 3.2.1) because of the addition of Dryer DRY4. The 249-tpy VOC emission limit still applies to the same point sources (DRY2/DRY3, HM1/HM2, PM1-PM6, and COOL). This emission limit is not revised or relaxed in this permit amendment. Therefore, the 2001 letter to North Carolina authorities would not be applicable.

The addition of the proposed dryer is being treated as a separate project with its own synthetic minor emission limits for VOC. Per 40 CFR 52.21(a)(2)(i) and 40 CFR 52.21(b)(1)(i)(c), while the existing facility (DRY2/DRY3, HM1/HM2, PM1-PM6, and COOL) is still a minor source, as long as the modification (addition of DRY4) itself is not a major stationary source, the requirements of this section would not apply; in other words, the proposed modification would not trigger a PSD review.

SELC Comment No. 2 – Telfair Underestimates HAP Emissions and the Draft Permit Fails to Restrict PTE for Aggregate HAPs to Area Source Levels.

Telfair estimates that after this modification, the facility will remain an area (i.e., minor) source of HAPs, meaning potential HAP emissions would remain below the major source thresholds of 10 tpy (for any single HAP) and 25 tpy for total HAPs. Unfortunately, Telfair's HAP emission calculations are flawed or otherwise not plausible in several critical ways, and the modified facility will be a major source of HAPs. Major sources of HAPs are required to implement Maximum Achievable Control Technology (MACT), an important pollution control standard critical to protecting the public from especially dangerous toxic pollutants. By underestimating HAPs emissions, Telfair is attempting to skirt the MACT standard.

A substantial portion of the VOCs emitted by the facility are also HAPs. If this modification is approved, Telfair will be permitted to emit more than 585 tons of VOCs per year, including fugitive emissions. Telfair in turn estimates that just 10.1 tons of these VOCs will also be organic HAPs; in other words, Telfair believes that just 1.7% of all VOCs emitted by the facility will also be HAPs. This is a ratio of organic HAPs to VOCs that is contrary to a substantial amount of wood pellet testing.

For instance, Enviva, which has conducted more stack testing at wood pellet plants than any other entity, recently conceded to EPD that its Waycross, GA pellet plant emits 79 tons of HAPs per year. That facility emits 248 tons of VOCs, meaning that about 33% of all VOCs emitted are also organic HAPs. Drax, another significant player in the wood pellet industry, also recently conducted compliance tests, revealing a similar ratio of HAPs to VOCs, and has begun using those emission factors for permitting new wood pellet plants. For instance, in Mississippi and Washington, Drax estimates based on its own compliance testing that its pellet plants will emit 120 tons of VOCs and 40 tons of HAPs, which is again about 33%. As applied to Telfair, these ratios show the modified facility will emit 193 tons of organic HAPs. As explained below, this discrepancy is due in part because the stack tests Telfair relies upon undermeasure methanol emissions, as well as the fact that Telfair has neglected to include HAP emissions from numerous units.

Additionally, while the Enviva and Drax facilities differ from Telfair in that they utilize VOC control technology, which could potentially alter the ratio of HAPs to VOCs, testing at uncontrolled wood pellet plants still show Telfair will still vastly exceed the major source MACT thresholds. The table below is from testing at Enviva Wiggins, which was uncontrolled for VOCs at the time of the testing:

Table 1-1. Total Emissions at Plant Permit Limit of 185,550 ODT/Year									
Analyte	Dryer 1	Dryer 2	Dry Hammermill 2	Green Hammermill	Pellet Cooler 1	Pellet Cooler 2	Aspirator	Dry Hammermill 1	Total
Total VOC	66.3	57.6	11.1	21.1	15.7	7.8	46.4	7.4	233.5
Organic HAPs									
Methanol	1.85	7.26	0.08	0.27	0.16	0.24	0.34	0.05	10.3
Acetaldehyde	0.00	1.40	0.25	0.61	0.39	0.35	0.23	0.17	2.0
Acrolein	1.03	2.32	0.43	1.24	0.77	0.68	0.20	0.29	7.0
Formaldehyde	2.01	3.48	0.39	0.37	0.49	0.34	0.03	0.26	7.4
Phenol	0.00	0.00	0.00	0.00	0.39	0.00	0.00	0.00	0.4
Propionaldehyde	1.06	1.82	0.17	0.09	0.16	0.11	0.00	0.11	3.5
Total HAPS	5.96	14.87	1.32	2.59	2.35	1.72	0.80	0.88	31.89

Figure 1: Enviva Wiggins Stack Test Excerpt

The ratio of HAPs to VOCs for the total facility is 13.3%, resulting in an emission rate of 77 tpy at Telfair, including 25 tons of methanol, 17.5 tons of formaldehyde, and 17 tons of the particularly toxic HAP acrolein (which would rank Telfair the largest emitter of acrolein in Georgia), all of which significantly exceed the relevant 10 and 25 tpy MACT thresholds.

Telfair's HAP emissions are also not plausible when considering other large emitters of VOCs. For example, we surveyed the 30 largest emitters of VOCs in Georgia based on EPA's National Emissions Inventory and EPD's permits. Twenty-three of these sources emitted less VOCs than Telfair will (i.e., emitted less than 585 tons of VOCs). Of these 30 sources, all but three are major sources of HAPs; one of these three minor facilities only uses and emits pentane (which is a VOC but not a HAP), while the other two are Telfair's sister facilities (Appling County Pellets and Varn Wood Products, both owned by Telfair's parent company, Fram Renewable Fuels), both of which reported *zero* HAP emissions, which is plainly not plausible. The table below sets out the results of this survey:

Facility	Facility Type	VOC Emissions (tons/yr)	Major Source of HAPs?	Notes
Rayonier Performance Fibers, LLC	Pulp and Paper Plant	1,356	Yes	
International Paper - Savannah	Pulp and Paper Plant	1,066	Yes	
Graphic Packaging Macon Mill	Pulp and Paper Plant	870	Yes	
Graphic Packaging International, LLC	Pulp and Paper Plant	816	Yes	
Brunswick Cellulose LLC	Pulp and Paper Plant	687	Yes	
Georgia-Pacific Cedar Springs LLC	Pulp and Paper Plant	617	Yes	
International Paper - Flint River Mill	Pulp and Paper Plant	602	Yes	
Telfair Forest Products	Wood Pellet Plant	585	No	
Appling County Pellets	Unspecified	567	No	Sister Facility to Telfair, reported zero HAP emissions
PCA Valdosta Mill	Pulp and Paper Plant	523	Yes	
ADM Valdosta	Food Products Processing Plant	518	Yes	
Georgia-Pacific Wood Products LLC (Warrenton)	Lumber/Sawmill	495	Yes	
Dart Container Corporation of Georgia	Unspecified	466	No	The only significant VOC used and emitted is pentane, which is not a HAP
Interfor Preston Division	Lumber/Sawmill	448	Yes	
Huber Engineered Woods, LLC	Plywood & Engineered Wood Products	423	Yes	
Georgia-Pacific Wood Products South LLC Lumber Plant	Lumber/Sawmill	416	Yes	
Varn Wood Products, LLC	Unspecified	412	No	Sister Facility to Telfair, reported zero HAP emissions
Pinova, Inc.	Chemical Plant	353	Yes	

Facility	Facility Type	VOC Emissions (tons/yr)	Major Source of HAPs?	Notes
Armstrong World Industries Inc.	Unspecified	342	Yes	
Interfor Perry Division	Lumber/Sawmill	342	Yes	
Hartsfield-Jackson Atlanta International Airport	Airport	339	Yes	
Langdale Forest Products Co.	Lumber/Sawmill	339	Yes	
Interfor U.S. Inc. - Baxley Sawmill	Lumber/Sawmill	323	Yes	
Interfor U.S. Inc. - Swainsboro Sawmill	Lumber/Sawmill	315	Yes	
Georgia-Pacific Savannah River LLC	Pulp and Paper Plant	301	Yes	
Albany Lumber	Lumber/Sawmill	300	Yes	
Interfor U.S. Inc. - Meldrim	Lumber/Sawmill	297	Yes	
Meggitt (Rockmart), Inc.	Aircraft, Aerospace, or Related Parts Plant	293	Yes	
Jordan Forest Products, LLC	Lumber/Sawmill	291	Yes	
International Paper Company (Rome Linerboard Mill)	Pulp and Paper Plant	286	Yes	

As the foregoing table further demonstrates, it is just not plausible that a facility—especially a wood products facility like Telfair—can emit 585 tons of VOCs without being a major source of HAPs.

A. Telfair's Stack Tests for Methanol Have Historically Undermeasured Emission Rates.

Telfair's current and past permits have required compliance testing for methanol, formaldehyde, and acetaldehyde using NCASI Method 105.1.24 Telfair's PTE estimates for HAPs rely on these stack tests, as well as stack tests from a related facility, Jasper Pellets in South Carolina, which also utilized NCASI Method 105.1.

NCASI, or the National Council for Air and Stream Improvement, is a forest products industry group that represents the interests of sources like Telfair. Although NCASI methods may be reliable in certain instances, Method 105.1 has been shown to significantly undermeasure methanol at wood pellet plants. For instance, as EPD is aware, the wood pellet plant Enviva Waycross conducted methanol tests in 2021 using EPA Method 320 after years of using NCASI Method 105.1. The results showed vastly higher methanol emission rates, resulting in permit violations. The new testing also revealed that the facility was

a major source of methanol, which necessitated case-by-case MACT permitting. Despite the negative consequences for the company, Enviva "determined that the [new methanol test results], based on the requirement to use EPA Method 320, are valid and representative."

The Enviva testing showed that using EPA's method rather than NCASI's method resulted in its dryers emitting as much as 15 times more methanol than previously believed.27 Telfair, meanwhile, calculates it will emit just 1.38 tons of methanol per year based on the NCASI stack tests (out of a total of 580+ ton of VOCs); correcting for the difference between NCASI and EPA's method results in a PTE for methanol of about 20 tpy at Telfair.

We note that Enviva Waycross calculates that it emits 44 tons of methanol out of a total of 248 tons of VOCs, meaning 18% of all the VOCs emitted by that facility are methanol.28 Likewise, Drax's recent emissions estimates also show about 17% of all of the VOCs emitted by its facilities are methanol. Meanwhile, the foregoing calculation for Telfair—emitting 20 tons of methanol out of a total of 585 tons of VOCs—is still only a methanol-to-VOC ratio of 3.4%. In other words, this test method discrepancy does not fully explain the difference between the Enviva, Drax, and Telfair estimates.

Finally, we note that the use of VOC and HAP control technology also doesn't account for the different ratios of VOCs and HAPs between Enviva, Drax, and Telfair. As just one example, Enviva has conducted stack tests on uncontrolled green hammermills that showed 10 to 12 percent of all VOCs emitted by these units were HAPs. Although this is lower than the more recent Enviva tests, these rates are still vastly higher than the 1.7% estimated by Telfair.

B. Telfair Omits Organic HAPs from Several Significant Sources.

Telfair estimates that its green hammermill (ID: HAMG) will emit 35 tons of VOCs per year, but zero HAPs. Likewise, Telfair only includes a handful of HAPs for pellet Handling/Storage (ID: HAND) and shavings bagging lines (ID: BAG 1, 2, & 3), which will emit 33 tons and 20 tons of VOCs, respectively. All told, these three units will emit 88 tons of VOCs but, according to Telfair, just 0.53 tons of HAPs. As demonstrated above, this is simply not plausible, and we calculate that each unit will emit considerably higher levels of HAPs:

> **Green Hammermill:** Currently, Telfair does not list any HAP emissions from this unit, despite estimating it will emit 35 tons of VOCs. Using the same ratio of HAPs to VOCs as Telfair's dry hammermills, we calculate that the green hammermill will emit 5.9 tons of organic HAPs. Similar rates are shown based on the emission factors from the Enviva stack tests cited above (for instance, Enviva estimates that most log yard units like chippers emit at least methanol at rates that amount to 20% of all VOCs, which would amount to 7 tons at Telfair).
>
> **Pellet Handling and Storage and Shaving Side Bagging Lines:** Telfair does include methanol, formaldehyde, and acetaldehyde for these units, but not acrolein, phenol, or propionaldehyde. To calculate these emissions, we prorated an emission factor for each pollutant using the ratio of each HAP to VOC as emitted from that production line's dryer, which results in an additional 0.67 tpy of HAPs.

We believe the foregoing are reasonable approaches to calculating the missing HAP emissions from these units. Based on these approaches, we estimate they will emit an additional 6.57 tpy of HAPs. At a bare

minimum, however, EPD must require Telfair to account for these HAP emissions and units as part of the facility-wide HAP PTE calculation.

Finally, the fact that the draft permit's monitoring, recordkeeping, and reporting requirements do not include HAP emissions from these units in the actual-emissions monitoring equations means the permit also fails to assure compliance with the MACT-avoidance limits, which is a defect in the Title V permit's monitoring, recordkeeping, and reporting requirements.

C. Telfair's PTE Tables Are Also Miscalculated.

Table 1 of Telfair's application (Page 2), titled "PTE Summary" (as well as Table 4 of the Emissions Estimates Appendix) lists the facility's existing and future PTE. Unfortunately, Telfair has made a miscalculation in these tables. The rightmost column lists the new emissions associated with Dryer 4, but the THAP row (presumably "Total HAPs") is incorrectly listed as 1.78 tpy— correctly tallying the HAP emissions in this column results in a total of 3.18 tpy.

D. Telfair's Air Toxics Modeling Is Likewise Deficient.

As part of this application, Telfair was required to conduct an air toxics impact assessment pursuant to EPD's Toxic Impact Assessment Guideline. As set out above, Telfair's estimated HAP emissions, which are also air toxics, are deeply flawed. As such, Telfair's air toxics impacts assessment is likewise inaccurate. EPD must require an additional toxics assessment with corrected PTE rates.

Division Response to Comment No. 2:

Regarding Comment 2.A.:

All HAP emissions calculations are based on stack test data from source testing conducted on-site, directly on Telfair's relevant emission units, using Division-approved methods. Test data referenced for emission factor derivations for this application were conducted between February and June of 2021.

NCASI Method 105.01 is a self-validating method for the collection and analysis of the six compounds referred to as Total HAP (methanol, phenol, acetaldehyde, acrolein, formaldehyde, and propionaldehyde) chosen by the EPA as a reference method for the Plywood and Composite Wood Products (PWCP) MACT Rule (40 CFR 63 Subpart DDDD). The test is especially applicable to accurately measuring highly water-soluble species (such as methanol) in high moisture stack exhausts. NCASI Method 105.01 has been the accepted standard for many previous PCWP MACT compliance demonstrations.

While the commenter pointed out that the total HAP to VOC ratio for facilities with VOC/HAP controls, such as Drax and Enviva Waycross, could be as high as 33%, the total HAP to VOC ratio for a facility without any controls, such as Enviva Wiggins presented in the table above, was 13.7%. The majority of VOC and HAP emissions were from the two dryers. Note that the methanol to VOC ratio was 2.8% for Dryer 1 and 12.6% for Dryer 2. This wide variance in tested results has been observed on different dryers of a facility and among different facilities. It is also suspected that controls like RTOs and RCOs could destroy more VOC (as in terpenes) than HAP, thus bringing up the after-control HAP to VOC ratio. The Division agrees with the facility using actual tested results in their emission calculations. Please also note that the facility is required to repeat the testing once every 36 calendar months to periodically validate the VOC and HAP emission factors.

The 30 largest VOC emitters in Georgia provided by the commenters do not really provide reasonable justifications to expect higher HAP emissions from the facility. Many of the listed sources are not in the same industry type, such as pulp and paper plants, airport/aerospace manufacturing, and food processing and should not be compared to a pellet mill. The list includes some wood industries like lumber mills and plywood engineered wood facilities. Those industries either use the standardized NCASI or US EPA AP-42 emission factors. The only wood pellet mills in the list are minor sources of HAP emissions. Note that the wood pellet mills in the list are mostly uncontrolled.

Lastly, Enviva Waycross conducted their tests on the dry hammermills, not green hammermills.

Regarding Comment 2.B.:

In wood pellet production, the activation energies required to rearrange the long-chain hydrocarbons naturally present in the wood into the form of organic HAPs (methanol, phenol, acetaldehyde, acrolein, formaldehyde, and propionaldehyde) can only be reached in the high-temperature environment of a dryer. When wood is pressed into pellets under great pressure, that raises the temperature. As such, the majority of the facility's HAP is generated during the drying process, and from dry hammermills, pelletizers and coolers. By the time the pellets reach the storage silos and bagging lines, material temperatures will have significantly fallen, the facility claimed that VOC and HAP emissions are expected to be "non-detect" according to Method 25A. Similarly, the green hammermills operate at ambient temperature and generate minimal heat—as such, HAP emissions from the green hammermills are expected to be negligible. Despite the above, the facility still accepts the Division's requirement to include HAP emissions from the pellet handling/storage (ID No. HAND) in the facility-wide HAP emission tracking.

Regarding Comment 2.C.:

The calculation error was already caught and revised from 1.78 tpy total HAP to 3.26 tpy total HAP during the application review period. Note that the facility is still expected to be a minor source for combined HAP emissions after the proposed modification with this calculation revision.

Regarding Comment 2.D.:

The Division believes that the air toxics modeling accurately reflects the above.

SELC Comment No. 3 – The Draft Permit Fails to Include Adequate Monitoring, Recordkeeping, and Reporting Requirements.

EPD must substantially strengthen the stack testing requirements in Telfair's current Title V permit. Title V permits must contain "periodic monitoring sufficient to yield reliable data from the relevant time period that are representative of the source's compliance with the permit." For several reasons, the draft Title V permit amendment and the underlying Title V permit to be modified are deficient on this front.

Critically, Telfair's current Title V permit only requires stack testing for three of the seven significant HAPs emitted by wood pellet plants: acetaldehyde, formaldehyde, and methanol. Telfair has never been required to test for acrolein, phenol, or propionaldehyde. This is despite the fact that Telfair's own emissions estimates show that the facility emits some of these pollutants, such as acrolein, at higher rates than the HAPs for which EPD has required testing (*see, e.g.*, Telfair's Dry Hammermill emission estimates, where acrolein is the highest-emitted

HAP). As shown above, there is significant reason to doubt Telfair's HAP emission estimates, and EPD must strengthen the testing provisions in order to assure compliance with the 10 and 25 tpy MACT-avoidance limits.

We recognize that EPD has revised the periodic compliance testing condition in the draft permit to include testing for "other HAPs" in addition to methanol, formaldehyde, and acetaldehyde. "Other HAPs," however, is not defined in the permit or statement of basis. It is totally unclear then which HAPs Telfair must monitor through stack testing. This ambiguity alone is grounds for an objection by EPA, as the public cannot ascertain whether the monitoring provision of the draft Title V permit are adequate to assure compliance with the MACT-avoidance limit.

More to the point, it is simply not believable that this facility would emit 585 tons of VOCs and just 10.1 tons of HAPs, and EPD must include stack testing for all six of the primary wood-products HAPs from each of the major units in order to assure compliance with the 10 and 25 tpy major-source MACT avoidance condition.

Additionally, as discussed above, Telfair's Tile V permit requires methanol testing using an NCASI method that substantially undermeasures methanol emissions, if not other organic HAPs as well. As such, the draft Title V permit does not contain adequate monitoring requirements to reliably measure methanol emissions and assure compliance with the MACT-avoidance limits. EPD must revise the draft permit to require EPA's Method 320 for methanol (and potentially for other organic HAPs, to the extent EPD determines that the same flaws with the NCASI method apply to other organic HAPs).

In sum, the draft Title V permit fails to assure compliance with the MACT-avoidance limits because it does not set out the specific HAPs that must be included in the periodic compliance tests, and also because it requires the use of the unreliable NCASI test method rather than EPA's Method 320.

Division Response to Comment No. 3:

As discussed in the Division response to Comment No. 2, the Division believes that the use of the NCASI 105.01 test method is acceptable for the measurement of HAPs because it is an acceptable testing method in the PWCP MACT. Years ago, the Division expected that the HAPs from wood drying/pelletizing include only methanol, formaldehyde, and acetaldehyde. With more applications from various sources with real test data, the list has been broadened to include acrolein, phenol, and propionaldehyde in recent years. Both the Division and facility are fully aware of "Other HAPs" in the permit will include at least acrolein, phenol, and propionaldehyde. Instead of having these three HAPs specified in the permit, having "Other HAPs" (as ambiguous as it is shown) in the permit would work better in case more HAP specimens are identified in the future.

The ratio between HAP and VOC emissions were also discussed in the responses to Comment No. 2. Therefore, the Division believes that adequate testing, monitoring, record keeping, and reporting requirements are included in the permit amendment.

SELC Comment No. 4 – EPD Must Account for Environmental Justice Impacts and Should Deny This Modification Accordingly.

A. EPD has an Obligation to Consider the Disparate Impacts Its Permitting May Have.

Georgia EPD must ensure that its permitting actions are safeguarding "the public health, safety, and welfare of the people of the State of Georgia." *See, e.g.,* Ga. Comp. R. & Regs. 391-3-1-.02(2)(a)(2). It

furthermore is responsible for ensuring that its permitting programs are not causing disproportionate harm to protected classes of Georgians.

By accepting federal funding from EPA, EPD accepts its obligation to comply with EPA's regulations for non-discrimination. 40 CFR Chap. 1 Sec. 7.80(a). EPD must determine whether its permitting actions "have the *effect* of discrimination on the basis of race, color, or national origin," even if that was not EPD's intent. In determining whether an action has a potential disparate adverse impact, a state agency must consider cumulative impacts, including the consideration of heightened health risks resulting from the community's "[t]otal exposure to multiple environmental stressors . . . , including exposures originating from multiple sources, and traveling via multiple pathways over a period of time."

In addition, EPA's guidance encourages EPD to conduct an environmental justice analysis to encourage fair treatment and meaningful community involvement when—like here—a permitting action "may result in disproportionately high and adverse human health or environmental effects on a community."

An environmental justice analysis accomplishes two important policy objectives: (1) it addresses the principle of fair treatment by further evaluating adverse and disproportionate impacts and identifying ways to prevent or mitigate such impacts; and (2) it addresses the principle of meaningful involvement by fostering enhanced community engagement in the permitting decision.

B. Telfair's Permit Modification Requires Special Consideration for Potential Environmental Discrimination Arising from this Permitting Process

As explained above, if this permit modification is approved, Telfair would be 8th largest emitter of VOCs in the state of Georgia, and if the application is accepted as-is, Georgia EPD would still have never conducted a PSD review, which could ultimately require a cumulative impacts review. This approach to this permit application would not be consistent with Clean Air Act regulations—and Georgia's related implementation of those regulations. This approach would also be inconsistent with EPD's mission to take measures necessary to protect the health and safety of all Georgians.

EPD's public health and non-discrimination mandates require EPD to account for the particular vulnerabilities and susceptibilities of the communities that will breathe the toxins that EPD allows to be emitted. It is well-accepted that certain characteristics make individuals either more vulnerable or susceptible to health impacts from air pollution, including proximity, race/ethnicity, age, and socioeconomic status.

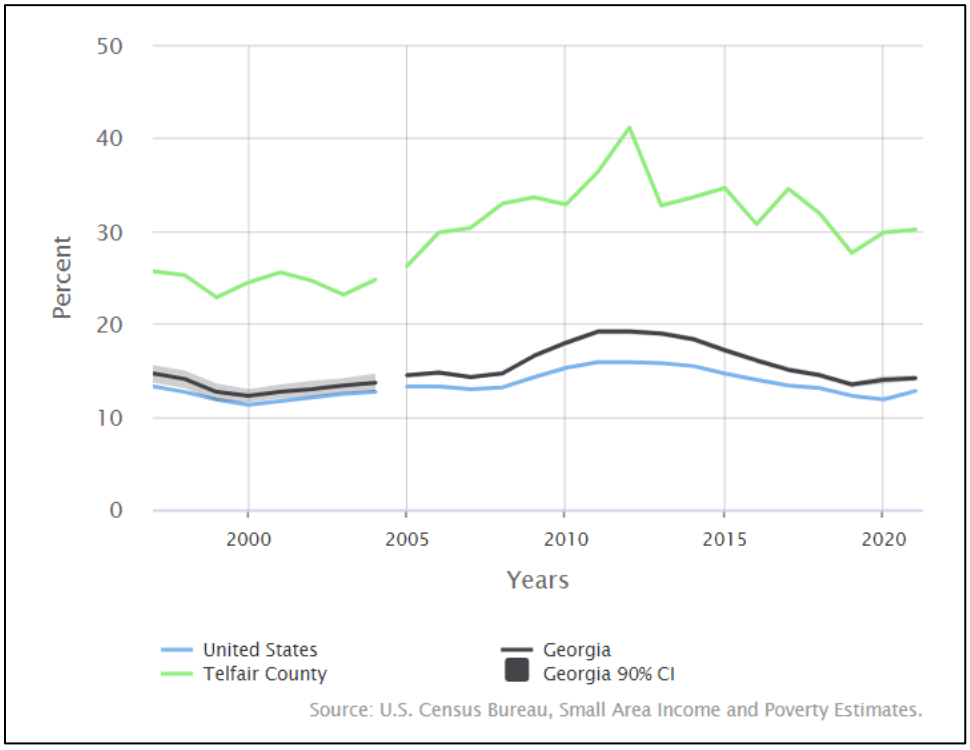
Factors Affecting Susceptibility

Intrinsic Factors (Biological)	Extrinsic Factors (Exposure-Related)
• Age and lifestage • Gender • Race/ethnicity • Genetic polymorphisms	• Disease status • Socioeconomic status • Nutrition status • Geographic proximity • Lifestyle

Figure 2: Graph from EPA's Guidelines for Exposure Assessment

Telfair proposes to vastly increase its pollution next to a community that is predominately Black, has high rates of poverty, and has profound health vulnerability indicators, without analyzing the impact its increased pollution may have on this community. EPD can play an important role in ensuring that the health and safety of the population nearby is protected.

The Telfair facility is in the middle of Lumber City, which is estimated to have a population that is 72% Black with a median household income of less than $29,000 a year. Furthermore, Telfair County has extremely high poverty rates compared to Georgia and the rest of the United States.



Though White residents of Telfair County have high poverty levels (at approximately 19.7%), rates of poverty more than double among the Black population in Telfair (at approximately 42%).

Telfair also has significant health risk indicators, as reflected by it ranking last among 156 Georgia counties for health factors by the Robert Wood Johnson Foundation and the University of Wisconsin Population Health Institute. The ranked health factors consider measures of health behaviors, access to and use of clinical care, and socio-economic factors.

Telfair is already located in an area with unusually high exposure to pollution from VOCs and HAPs. EJ Screen estimates the Telfair location to be exposed to more particulate matter than 88% of the country and more ozone than 56% of the country. EJ Screen also estimates that Telfair has more estimated air toxics cancer and respiratory risks than over 87% of the country.44 As discussed above, we believe Telfair is significantly underestimating its air toxics emissions, and, at minimum, it stands to reason that if EPD were to approve Telfair's request to double VOC emissions, most air toxics emitted by the facility would likewise double, significantly increasing the air toxics exposure of the already overburdened community. EPD must reject this doubling both under the requirements of the Clean Air Act and under its separate but equally important Environmental Justice mandate.

Division Response to Comment No. 4:

GA EPD takes seriously our responsibility for administering the Clean Air Act and Georgia Air Quality Act and incorporating principles of equity and fair treatment in our actions. We are committed to engaging with stakeholders and ensuring that citizens in overburdened communities have meaningful involvement in our decision-making process. GA EPD first published a public advisory related to the facility on August 30, 2023, informing the public that it had received an application for the facility and inviting comments on that application. That public advisory expired on September 29, 2023. After considering comments received and all application materials, GA EPD next provided a public comment period on the draft permit, which closed on February 9, 2024.

GA EPD does not select sites for facilities. When companies choose their proposed locations, they frequently also must obtain local permits or permissions to build and operate their facilities. GA EPD does not have oversight of these local government decisions. Current state and federal air quality requirements do not prohibit the increase of emissions or the installation of a new emission source based on the demographic makeup of the surrounding area. However, as discussed above GA EPD strives to provide opportunities for public feedback and as discussed below GA EPD conducted a thorough evaluation of the potential emissions impact on the air quality and the surrounding community.

GA EPD completes an independent analysis of the air emission impacts from proposed new emission units as well as the entire existing facility on the ambient air. These impact assessments model projected emissions using the protocols in the Georgia "Guideline for Ambient Impact Assessment of Toxic Air Pollutant Emissions." Those protocols specifically factor in potential health impacts of those emissions on people living in the surrounding area. When GA EPD performed this analysis for the facility, it indicated that the HAP emissions from the facility, after the modification, would not pose a significant risk to the community.

GA EPD notes that Lumber City (Telfair County), Georgia is currently, and has a long history of, meeting the National Ambient Air Quality Standards (NAAQS). This means that existing sources of air emissions in Lumber City, Georgia have not already made air quality unsafe. These standards are established by the US EPA and set to be protective of public health, including sensitive and vulnerable populations, and the environment--with an adequate margin of safety. In this case, GA EPD determined that the application showed that emissions of the relevant NAAQS pollutants would be below threshold levels requiring an air quality modeling analysis, demonstrating that no violation of the NAAQS would occur. Thus, air quality in the area will meet federal public health standards (the NAAQS) with all existing sources of air emissions *plus* emissions from the after-modification facility.

Currently, Georgia does not have any specific Environmental Justice rules. EPA has not promulgated any specific rules associated with Environmental Justice, either.

The Division has been applying the same standard when reviewing this application compared to other applications. Conducting a Toxic Impact Assessment before issuing the permit ensures that the emissions from the facility will not cause an adverse impact on the local community. The decision to recommend issuance of an air permit is based on GA EPD's review of the application and all technical and other information submitted. That review indicates that the facility and modification, as proposed, will comply with all applicable state and federal air regulations, will not pose a significant risk to the community, and will not cause or contribute to a violation of any NAAQS. The Division has been following our regulations and policies to protect the citizens around the facility.