

STATEMENT OF BASIS

For the issuance of Draft Air Permit # 0456-AOP-R7 AFIN: 52-00035

1. PERMITTING AUTHORITY:

Arkansas Department of Environmental Quality
5301 Northshore Drive
North Little Rock, Arkansas 72118-5317

2. APPLICANT:

Anthony Timberlands, Inc.
111 South Plum Street
Bearden, Arkansas 71720

3. PERMIT WRITER:

Charles Hurt, P.E.

4. NAICS DESCRIPTION AND CODE:

NAICS Description: Sawmills
NAICS Code: 321113

5. ALL SUBMITTALS:

Date of Application	Type of Application (New, Renewal, Modification, Deminimis/Minor Mod, or Administrative Amendment)	Short Description of Any Changes That Would Be Considered New or Modified Emissions
11/1/2016	Modification	N/A – The modification is to list the correct Boiler MACT subcategory for each of the boilers and install a wet scrubber on SN-02 in order to comply with the PM emission standards in Subpart DDDDD

6. REVIEWER'S NOTES:

Anthony Timberlands, Incorporated (AFIN: 52-00035) owns and operates a pine sawmill physically located at Second and Plum Streets in downtown Bearden (Ouachita County), Arkansas. Anthony submitted a permit application to change the Boiler MACT subcategory for the two Hurst boilers (SN-01 and SN-22), revise permit limits for PM and CO corresponding with the different emission standards resulting from

reclassification, replace the mutliclone controlling particulate emissions on Babcock/Wilcox boiler (SN-02) with a turbo venturi scrubber system, and revise the PM limit for SN-02 consistent with the Boiler MACT PM filterable emission standard applicable to SN-02. Overall, permitted emissions increased by 44.2 tpy of CO and decreased by 67.0 tpy PM.

7. COMPLIANCE STATUS:

The following summarizes the current compliance of the facility including active/pending enforcement actions and recent compliance activities and issues.

The facility was last inspected on August 26, 2016. The inspection report indicates no compliance issues were discovered. However, the inspection report recounts information that indicates the facility has not completed the initial compliance demonstrations required by the permit and the Boiler MACT (Subpart DDDDD) by the compliance deadline, July 28, 2016. As of January 1, 2017, there are no records of any initial compliance demonstration (including performance test) having been completed for the wood fired boilers (SN-01, SN-02 and SN-22).

The application contained statements the facility is not currently in compliance with the requirements of the Boiler MACT. The application requests an extension pursuant to 40 C.F.R. § 63.6. Any extension to stay compliance with the Boiler MACT was to have been approved prior to the compliance date, January 31, 2016. Currently there are no records of a prior extension.

Enforcement has indicated knowledge of at least some of the compliance issues and is currently preparing a CAO.

8. PSD APPLICABILITY:

a) Did the facility undergo PSD review in this permit (i.e., BACT, Modeling, etc.)? N

b) Is the facility categorized as a major source for PSD? Y

- *Single pollutant ≥ 100 tpy and on the list of 28 or single pollutant ≥ 250 tpy and not on list*

If yes, explain why this permit modification is not PSD.

N/A - The permit modification did not involve any physical change or change in method of operation that could trigger PSD review.

9. SOURCE AND POLLUTANT SPECIFIC REGULATORY APPLICABILITY:

Source	Pollutant	Regulation (NSPS, NESHAP or PSD)
Facility	PM ₁₀ , VOC, CO	PSD

Source	Pollutant	Regulation (NSPS, NESHAP or PSD)
SN-01, SN-22, SN-27	N/A	NSPS Dc
SN-01, SN-02, SN-22, SN-27	PM, CO, HAPs	NESHAP DDDDD

10. EMISSION CHANGES AND FEE CALCULATION:

See emission change and fee calculation spreadsheet in Appendix A.

11. AMBIENT AIR EVALUATIONS:

a) Reserved.

b) Non-Criteria Pollutants:

The changes proposed for this revision did not require re-evaluation of non-criteria pollutants. A copy of the previous evaluation is included below.

The non-criteria pollutants listed below were evaluated. Based on Department procedures for review of non-criteria pollutants, emissions of all other non-criteria pollutants are below thresholds of concern.

1st Tier Screening (PAER)

Estimated hourly emissions from the following sources were compared to the Presumptively Acceptable Emission Rate (PAER) for each compound. The Department has deemed the PAER to be the product, in lb/hr, of 0.11 and the Threshold Limit Value (mg/m³), as listed by the American Conference of Governmental Industrial Hygienists (ACGIH).

Pollutant	TLV (mg/m ³)	PAER (lb/hr) = 0.11 × TLV	Proposed lb/hr	Pass?
Acrolein	0.229	2.52E-02	0.78	No
Arsenic	0.01	0.0011	2.49E-03	No
Beryllium	5E-05	5.5E-06	1.25E-04	No
Cadmium	0.002	2.20E-04	5.53E-04	No
HCl	2.98	0.328	2.2	No
Manganese	0.1	1.10E-02	0.18	No
Mercury	0.01	1.10E-03	4.20E-04	Pass

2nd Tier Screening (PAIL)

AERMOD air dispersion modeling was performed on the estimated hourly emissions from the following sources, in order to predict ambient concentrations beyond the

property boundary. The Presumptively Acceptable Impact Level (PAIL) for each compound has been deemed by the Department to be one one-hundredth of the Threshold Limit Value as listed by the ACGIH.

Pollutant	PAIL ($\mu\text{g}/\text{m}^3$) = 1/100 of Threshold Limit Value	Modeled Concentration ($\mu\text{g}/\text{m}^3$)	Pass?
Acrolein*	2.29	0.15	Yes
Arsenic	0.1	0.00047	Yes
Beryllium	5.0E-04	2.0E-05	Yes
Cadmium	0.02	1.00E-04	Yes
HCl*	29.8	0.68	Yes
Manganese	1.00	0.03439	Yes

* These pollutants did not require updated modeling because the requested changes did not involve an increase.

c) H₂S Modeling:

The facility is not a significant source for hydrogen sulfide. Therefore, odor modeling is not warranted at this time.

12. CALCULATIONS:

SN	Emission Factor Source	Emission Factor	Control Equipment	Control Equipment Efficiency	Comments
01, 22	AP-42	0.28 lb _{PM} /MMBtu 0.32 lb _{PM10} /MMBtu 0.22 lb _{NOx} /MMBtu 0.025 lb _{SO2} /MMBtu 0.60 lb _{CO} /MMBtu* 0.013 lb _{voc} /MMBtu	Multi-clone	95%	Total heat input for SN-01, SN-02, and SN-22 shall be limited 1,000,000 MMBtu/yr.
02	AP-42 Stack Test	0.28 lb _{PM} /MMBtu 0.22 lb _{NOx} /MMBtu 0.025 lb _{SO2} /MMBtu 0.013 lb _{voc} /MMBtu S.T.** results: 24.3 lb/hr PM ₁₀ 61.46 lb/hr CO	Turbo Venturi Scrubber system	95%	Total heat input for SN-01, SN-02, and SN-22 shall be limited 1,000,000 MMBtu/yr.
27	AP-42	0.0075 lb _{PM} /MMBtu 0.0075 lb _{PM10} /MMBtu 0.098 lb _{NOx} /MMBtu 0.0006 lb _{SO2} /MMBtu 0.0824 lb _{CO} /MMBtu 0.0054 lb _{voc} /MMBtu	None	N/A	

SN	Emission Factor Source	Emission Factor	Control Equipment	Control Equipment Efficiency	Comments
04	AP-42	0.02 lb/ton	Cyclone	95%	
05	AP-42	0.04 lb/ton	Cyclone	95%	Stack test performed on similar cyclone concluded that the sawdust bin cyclone captures 99.99% of the PM generated from the sawing operations. The 95% capture efficiency is a conservative estimate.
06	AP-42	1.0 lb/ton	Cyclone	95%	
25	AP-42	0.35 lb/ton	Cyclone	95%	Sieve testing conducted at a competitor's softwood lumber mill. Stack test performed on similar cyclone concluded that the sawdust bin cyclone captures 99.99% of the PM generated from the sawing operations. The 95% capture efficiency is a conservative estimate.
12, 13, 14, 15, 16, 25	NCASI	3.5 lb _{VOC} /MBF 0.016 lb _{Formaldehyde} /MBF 0.265 lb _{methanol} /MBF	None		Facility limited to 200 MMBF of lumber per any 12 consecutive months.
23, 24	AP-42	200 MMBF of lumber per any 12 consecutive months.	Building	50%	Log Sawing assume 10% PM/PM ₁₀ airborne and 50% control efficiency because operations are indoors.
26	AP-42	0.1671 lb PM ₁₀ /VMT 22,646 mi/yr			

13. TESTING REQUIREMENTS:

The permit requires testing of the following sources.

SN	Pollutants	Test Method	Test Interval	Justification
SN-01 SN, 02, SN-22	PM ₁₀	201 A	Test one boiler of each size once every five years. SN-01 and SN-22 are 28.7 MMBTU/hr, and SN-02 is 55.5 MMBTU/hr.	Compliance Verification
SN-01, SN-02 SN-22	CO	10	Each boiler, annually SN-01 and SN-22 are 28.7 MMBTU/hr, and SN-02 is 55.5 MMBTU/hr.	Boiler MACT
SN-01, SN-02, SN-22	NO _x	7E	Test one boiler of each size once every five years. SN-01 and SN-22 are 28.7 MMBTU/hr, and SN-02 is 55.5 MMBTU/hr.	Compliance Verification

SN	Pollutants	Test Method	Test Interval	Justification
SN-01, SN-02, SN-22	HCl, Hg, TSM	Fuel Analysis See Subpart 5D, Table 6, Items #1, #2, and #4	Monthly	Boiler MACT
SN-01, SN-02, SN-22	HCl, Hg, TSM	Fuel Analysis See Subpart 5D, Table 5	Annually	Boiler MACT
SN-01, SN-02, SN-22	Filterable PM	5 or 7 See Subpart 5D, Table 5	Annually	Boiler MACT

14. MONITORING OR CEMS:

The permittee has not installed or proposed to install any CEMs or emissions related monitoring devices.

15. RECORDKEEPING REQUIREMENTS:

The following are items (such as throughput, fuel usage, VOC content, etc.) that must be tracked and recorded.

SN	Recorded Item	Permit Limit	Frequency	Report (Y/N)
01, 02, 22	weight of green wet wood residue (4,500 Btu/lb) and kiln dried wood residue (8,000 Btu/lb)	Not to exceed 1,000,000 MMBTU/yr heat input to boilers, combined	Monthly	Yes
02	Hours of Operation	7,884 hrs/yr	Monthly	Yes
02	Scrubber Liquid flow rate 30 day average, Control device pressure drop	Established at each annual test required by Boiler MACT	Continuously	Yes
04, 05, 06, 12, 13, 14, 15, 16, 23, 24, 25, 26	kiln dried lumber	200 MMBF/yr	Monthly	Yes
27	Natural gas combusted	420.7 MMscf/yr	Monthly	Yes

16. OPACITY:

SN	Opacity	Justification for limit	Compliance Mechanism
01, 22 02, 27	10% (Daily block average)	Boiler MACT	Daily Observations
04, 05, 06, 07, 09, 11, 25	20%	§19.503	Daily Observation
26	5%	§19.503	Weekly

17. DELETED CONDITIONS:

Former SC	Justification for removal
4	CAM replaced by Boiler MACT
10	Obsolete condition

18. GROUP A INSIGNIFICANT ACTIVITIES:

Source Name	Group A Category	Emissions (tpy)		
		VOC	HAPs	
			Single	Total
Underground Gasoline Storage Tank (10,000 gallons)	A-13	0.625	*	*
Underground Diesel Fuel Storage Tank (14,000 gallons)	A-13	0.003	*	*
Underground Diesel Fuel Storage Tank (10,000 gallons)	A-3			
Kerosene Aboveground Storage Tank (250 gallons)	A-3	<0.001	*	*

* The VOC emitted from these sources contain some components that are HAPs. Considering only 0.63 tpy of VOC total is emitted from these listed activities, it can be concluded without quantifying HAPs that neither limit of 1.0 tpy of single HAP nor 2.5 tpy combination of HAP will be exceeded.

19. VOIDED, SUPERSEDED, OR SUBSUMED PERMITS:

List all active permits voided/superseded/subsumed by the issuance of this permit.

Permit #
0456-AOP-R6

APPENDIX A – EMISSION CHANGES AND FEE CALCULATION

Fee Calculation for Major Source

Revised 03-11-16

Facility Name: Anthony Timberlands, Inc.
 Permit Number: 456-AOP-R7
 AFIN: 52-00035

\$/ton factor	23.93	Annual Chargeable Emissions (tpy)	<u>711.636</u>
Permit Type	Modification	Permit Fee \$	<u>1000</u>

Minor Modification Fee \$	500
Minimum Modification Fee \$	1000
Renewal with Minor Modification \$	500
Check if Facility Holds an Active Minor Source or Minor Source General Permit	<input type="checkbox"/>
If Hold Active Permit, Amt of Last Annual Air Permit Invoice \$	0
Total Permit Fee Chargeable Emissions (tpy)	-46.4
Initial Title V Permit Fee Chargeable Emissions (tpy)	

HAPs not included in VOC or PM:

Chlorine, Hydrazine, HCl, HF, Methyl Chloroform, Methylene Chloride, Phosphine, Tetrachloroethylene, Titanium Tetrachloride

Air Contaminants:

All air contaminants are chargeable unless they are included in other totals (e.g., H2SO4 in condensable PM, H2S in TRS, etc.)

Pollutant (tpy)	Check if Chargeable Emission	Old Permit	New Permit	Change in Emissions	Permit Fee Chargeable Emissions	Annual Chargeable Emissions
PM		244.5	177.5	-67		
PM ₁₀		198.1	198.1	0	-46.4	198.1
PM _{2.5}		0	0	0		
SO ₂		12.7	12.7	0	0	12.7
VOC		359.7	359.7	0	0	359.7
CO		571.74	615.9	44.16		
NO _x		131.1	131.1	0	0	131.1
Lead	<input type="checkbox"/>	0.024105	0.024105	0		

Pollutant (tpy)	Check if Chargeable Emission	Old Permit	New Permit	Change in Emissions	Permit Fee Chargeable Emissions	Annual Chargeable Emissions
1,1,1-Trichloroethane	<input checked="" type="checkbox"/>	0.0155	0.0155	0	0	0.0155
Chlorine	<input checked="" type="checkbox"/>	0.395	0.395	0	0	0.395
Chloromethane	<input checked="" type="checkbox"/>	0.0115	0.0115	0	0	0.0115
Hydrogen chloride	<input checked="" type="checkbox"/>	9.5	9.5	0	0	9.5
Methanol	<input type="checkbox"/>	26.5	26.5	0		
Tetrachloroethene	<input checked="" type="checkbox"/>	0.019	0.019	0	0	0.019
Acetone	<input checked="" type="checkbox"/>	0.095	0.095	0	0	0.095