

Facility: Anthony Timberlands Inc.
Permit No.: 1140-AOP-R2
AFIN: 30-00084
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STATEMENT OF BASIS

for the issuance of Air Permit # 1140-AOP-R2

1. PERMITTING AUTHORITY:

Arkansas Department of Environmental Quality
8001 National Drive
Post Office Box 8913
Little Rock, Arkansas 72219-8913

2. APPLICANT:

Anthony Timberlands, Inc.
930 Cabe Street
Malvern, Arkansas 72104

3. PERMIT WRITER: Paula Parker

4. PROCESS DESCRIPTION AND SIC CODE:

SIC Description: Pine Sawmill
SIC Code: 2421

5. SUBMITTALS: 8/22/02; 12/19/02; 1/21/03

6. REVIEWER'S NOTES:

Anthony Timberlands, Inc. currently operates a pine sawmill located at 930 Cabe Street in Malvern, Hot Spring County, Arkansas. The facility is modifying their current permit in order to install two wood-fired boilers to provide the steam needed for the lumber drying kilns. The existing natural gas-fired boilers that are currently serving that purpose will be maintained to provide supplemental steam as needed. The facility also modified emission rates from SN-10 and SN-13 for PM₁₀ in keeping with a Departmental memo for emission factors from similar sources. Emissions are increasing by 117.3 tons/yr PM, 62.0 tons/yr PM₁₀, 3.8 tons/yr VOC, 64.6 tons/yr NO_x, and 175.8 tons/yr CO. The new boilers are not subject to the provisions of 40 CFR 60, Subpart Dc – Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units since they were built in 1985 and have never been modified from their original configuration.

7. COMPLIANCE STATUS:

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

Anthony Timberlands sent a notification to the Enforcement Branch in December 2002 stating that the facility was planning on installing the wood-fired boilers before a final permit was issued. A CAO was issued for the installation itself, and then a second CAO allowed both installation and operation.

Initially, the facility maintained that Specific Condition #47 (wood waste limits) would be impossible to comply with since the facility has no means of measurement. The second CAO addresses a steam limit in place of the wood waste limit specified in the permit. However, the facility withdrew their comment regarding such steam limits, now in favor of the permit wood waste limit instead. Therefore, Specific Condition #47 is unchanged.

8. APPLICABLE REGULATIONS:

PSD Applicability

Did the facility undergo PSD review in this permit (i.e., BACT, Modeling, et cetera?)	Y/N		N
Has this facility undergone PSD review in the past?	Y/N	Permit#	N/A
Is this facility categorized as a major source for PSD?	Y/N		N
\$ 100 tpy and on the list of 28 (100 tpy)?	Y/N		N
\$ 250 tpy all other	Y/N		N

PSD Netting

Was netting performed to avoid PSD review in this permit?	Y/N	N
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Source and Pollutant Specific Regulatory Applicability

Source	Pollutant	Regulation [NSPS, NESHAP (Part 61 & Part 63), or PSD <u>only</u>]
NONE		

9. EMISSION CHANGES:

The following table summarizes plant wide emission changes associated with this permitting action.

Plant Wide Permitted Emissions (ton/yr)			
Pollutant	Air Permit 1140-AOP-R1	Air Permit 1140-AOP-R2	Change
PM	55.0	172.3	+117.3
PM ₁₀	55.0	117.0	+62.0
SO ₂	0.2	7.6	+7.4
VOC	216.4	220.2	+3.8
CO	17.6	193.4	+175.8
NO _x	21.2	85.6	+64.4
Acrolein	0	0.59	+0.59
Arsenic	0	0.01	+0.01
Benzene	0	0.62	+0.62
Cumene	0.40	0.40	0
Diethylene glycol monomethyl ether	3.70	3.70	0

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Plant Wide Permitted Emissions (ton/yr)			
Pollutant	Air Permit 1140-AOP-R1	Air Permit 1140-AOP-R2	Change
Formaldehyde	0	0.65	+0.65
Hydrogen Chloride	0	2.78	+2.78
Methanol	0.10	0.10	0
POM	0	0.01	+0.01
Phenol	0	0.01	+0.01
Styrene	0	0.28	+0.28
Xylene	0.40	0.40	0
Chromium Hex	0	0.01	+0.01
Manganese	0	0.24	+0.24
Lead	0	0.01	+0.01

10. MODELING:

Criteria Pollutants

Pollutant	Emission Rate (lb/hr)	NAAQS Standard ($\mu\text{g}/\text{m}^3$)	Averaging Time	Highest Concentration ($\mu\text{g}/\text{m}^3$)	% of NAAQS
PM ₁₀	29.1	50	Annual	7.64	15.3%
		150	24-hour	72.28	48.2%
CO	64.1	10,000	8-hour	106.2	1.2%
		40,000	1-hour	54.59	0.14%

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11. Non-Criteria Pollutants

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 deemed PAER to be the product, in lb/hr, of 0.11 and the Threshold Limit Value (mg/m^3), as listed by the American Conference of Governmental Industrial Hygienists (ACGIH).

Pollutant	TLV (mg/m^3)	PAER (lb/hr) = $0.11 \cdot \text{TLV}$	Proposed lb/hr	Pass?
Acrolein	2.29	0.252	0.268	N
Arsenic	0.009	0.00099	0.001472	N
Benzene	1.60	0.176	0.28	N
Chromium Hex	0.05	0.0055	0.00234	Y
Cumene	245.7	27.03	0.40	Y
DEME	96.66	10.63	3.70	Y
Formaldehyde	1.5	0.165	0.294	N
Hydrogen Chloride	7.5	0.825	1.27	N
Manganese	0.2	0.022	0.107	N
Methanol	262.0	28.82	0.10	Y
POM	5.25	0.578	0.000468	Y
Phenol	19.25	2.12	0.00342	Y
Styrene	82.5	9.08	0.127	Y

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Pollutant	TLV (mg/m ³)	PAER (lb/hr) = 0.11*TLV	Proposed lb/hr	Pass?
Xylene	434.1	47.751	0.4	Y

2nd Tier Screening (PAIL)

ISCST3 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 was deemed by the Department to be one one-hundredth of the Threshold Limit Value, as listed by the ACGIH.

Pollutant	(PAIL, µg/m ³) = 1/100 of Threshold Limit Value	Modeled Concentration (µg/m ³)	Pass?
Acrolein	22.93	0.1021	Y
Arsenic	0.09	0.0005600	Y
Benzene	15.97	0.1067	Y
Chromium Hex	0.5	0.0008915	Y
Formaldehyde	15.0	0.1120	Y
Hydrogen Chloride	75.0	0.4839	Y
Manganese	2.0	0.04077	Y

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12. CALCULATIONS:

SN	Emission Factor Source (AP-42, Testing, etc)	Emission Factor and units (lbs/ton, lbs/hr, etc)	Control Equipment Type (if any)	Control Equipment Efficiency	Comments (Emission factor controlled/uncontrolled, etc)
01	Memo Dated 1-7-1998 in Permit Guidance Manual	0.02 lb/ton	Cyclone	80%	Green Chips Storage Factor
02,03	AP-42	Natural Gas Combustion Factors	---	---	Uncontrolled factors
09	AP-42	0.35 lb/ton	Cyclone	80%	Old AP-42 Emission Factor for Log Sawing
10	Memo Dated 1-7-1998 in Permit Guidance Manual	0.5 lb/ton for PM 0.00018 lb/ton PM ₁₀	---	---	Kiln Dried Shavings Loading Factor
11,12,16	ADEQ Softwood Factor	3.5 lb/1,000 BF	---	---	---
13	Sieve Testing of Competitor's Lumber Mill	0.6 lb/ton for PM 0.00018 lb/ton PM ₁₀	---	---	Factor accepted since greater than the Kiln Dried Shavings Loading Factor
14	Memo Dated 1-7-1998 in Permit Guidance Manual	0.04 lb/ton	---	---	Green Chips Loading Factor

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SN	Emission Factor Source (AP-42, Testing, etc)	Emission Factor and units (lbs/ton, lbs/hr, etc)	Control Equipment Type (if any)	Control Equipment Efficiency	Comments (Emission factor controlled/uncontrolled, etc)
15	TANKS3	—	—	—	Previous permit. Emissions are based upon TANKS3 program to get the lb/hr.
17	MSDS	---	---	---	Worst case emissions calculated by multiplying maximum pollutant content times the rate of usage (1,334 gal/yr). Hourly emissions based on 2,000 hrs/yr.
18 and 19	AP-42	Wood-Waste combustion factors	---	---	Each boiler is approximately 33.446 MMBTU/hr

13. TESTING REQUIREMENTS:

This permit requires stack testing of the following sources.

SN(s)	Pollutant	Test Method	Test Interval	Justification For Test Requirement
18 and 19	CO	10	Initial	Recent Departmental protocol indicates CO testing for wood-fired boilers

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14. MONITORING OR CEMS

The permittee must monitor the following parameters with CEMs or other monitoring equipment (temperature, pressure differential, etc), frequency of recording and the need for records included in any annual, semiannual or other reports.

SN	Parameter or Pollutant to be Monitored	Method of Monitoring (CEM, Pressure Gauge, etc)	Frequency*	Report (Y/N)**
NONE				

* Indicate frequency of recording required for the parameter (Continuously, hourly, daily, etc.)

** Indicates whether the parameter needs to be included in reports.

15. RECORD KEEPING REQUIREMENTS

The following are items (such as throughput, fuel usage, VOC content of coating, etc) that must be tracked and recorded, frequency of recording and whether records are needed to be included in any annual, semiannual or other reports.

SN	Recorded Item	Limit (as established in permit)	Frequency*	Report (Y/N)**
Plantwide	Lumber Production	120,000,000 board feet per 12 months	Monthly	Y
15	Diesel Fuel Usage	150,000 gallons of diesel fuel per 12 months	Monthly	Y
15	Gasoline Usage	50,000 gallons of gasoline per 12 months	Monthly	Y
17	Dip Chemical Usage	1,334 gallons of dip chemicals per 12 months	Monthly	Y
17	Dip Chemical VOC Content (MSDS)	6.72 lb/gal	As Needed	N

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SN	Recorded Item	Limit (as established in permit)	Frequency *	Report (Y/N)**
17	Dip Chemical HAP Content (MSDS)	Methanol = 0.10 lb/gal Diethylene glycol monomethyl ether = 5.41 lb/gal Cumene = 0.46 lb/gal Xylene = 0.46 lb/gal	As Needed	N
17	HAP Content Substitutions	See Permit	Monthly	N
01,09,10 13,14	Records of Visible Emissions in Excess of Permitted Opacity	Opacity limits are varied - see following section.	As Needed	N

* Indicate frequency of recording required for the item (Continuously, hourly, daily, etc.)

** Indicates whether the item needs to be included in reports

16. OPACITY

SN	Opacity %	Justification (NSPS limit, Dept. Guidance, etc)	Compliance Mechanism (daily observation, weekly, control equipment operation, etc)
01,09,18,19	20%	Departmental Guidance	Daily Observation
02,03	5%	Departmental Guidance	Inspector's Observation
10,13,14	20%	Departmental Guidance	Weekly Observation

17. DELETED CONDITIONS:

The previous permit contained the following deleted Specific Conditions.

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Former SC	Justification for removal
NONE	

18. VOIDED, SUPERSEDED OR SUBSUMED PERMITS

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

Permit #
1140-AOP-R1

19. CONCURRENCE BY:

The following supervisor concurs with the permitting decision:

Lyndon Poole P.

