

STATEMENT OF BASIS

for the issuance of Draft Air Permit # : 1681-AOP-R6

1. PERMITTING AUTHORITY:

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

2. APPLICANT:

Anthony Forest Products Company
1236 Urbana Road
El Dorado, AR 71768

3. PERMIT WRITER: Charles Hurt

4. PROCESS DESCRIPTION AND NAICS CODE:

NAICS Description: All Other Miscellaneous Wood Product Manufacturing
NAICS Code: 321999

5. SUBMITTALS: 9/13/2006

6. REVIEWER'S NOTES:

Anthony Forest Products Company (Anthony) operates a sawmill and ancillary operations in Urbana, Arkansas. Anthony submitted an application to incorporate the applicable requirements of 40 CFR Part 63, Subpart DDDDD – *National Emission Standards for Hazardous Air Pollutants for Industrial, Commercial, and Institutional Boilers and Process Heaters*. Anthony also proposed to revise the particulate matter emission limits in order to account for emission control provided by the building enclosure. The VOC and HAP emission limits were also revised in order to correct a rounding error in the previous estimates. Dry Kiln #4 (SN-17) is no longer in operation. The two remaining dry kilns will consume the production capacity of Dry Kiln #4.

There are three boilers (SN-12, SN-13, and SN-16) at the facility which are subject to the requirements of Subpart DDDDD. All three boilers are classified as Existing Large Solid Fuel Boilers because each boiler exceeds 10 MMBTU/hr heat input capacity and combust wood waste. Anthony proposed demonstrating compliance for these boilers through fuel analysis for hydrogen chloride, mercury, and total selected metals (TSM) limits, excluding manganese. Anthony proposed compliance with the TSM standard by excluding manganese and complying with the health based compliance alternative (HBCA) for manganese separately.

Pollutant	Existing Large Boiler Burning Solid Fuel (lb/MMBtu)	Fuel Analysis Results (lb/MMBtu)	Stack Test Results (lb/hr)
HCl	0.09	0.0142	N/A
Hg	9 X 10 ⁻⁶	1.44E-06	N/A
TSM	0.001	9.42E-03	N/A
TSM (excluding Mn)	0.001	1.16E-04	N/A
As	Included in TSM	0	N/A
Be	Included in TSM	0	N/A
Cd	Included in TSM	2.27E-05	N/A
Cr	Included in TSM	2.08E-05	N/A
Pb	Included in TSM	2.23E-05	N/A
Mn	Included in TSM	9.31E-03	SN-12: Pending Test SN-13: Pending Test SN-16: Pending Test
Ni	Included in TSM	4.99E-05	N/A
Se	Included in TSM	0	N/A

Based on the fuel analysis, Anthony complies with emission standards in Subpart DDDDD for HCl, Hg, and TSM (excluding Mn). Included in the application is a Manganese Health Based Compliance Alternative (HBCA) demonstration. The HBCA utilized a site specific risk assessment to determine the risk of exposure. The risk assessment and dispersion analysis methods follow EPA's procedures established by the *Air Toxics Risk Assessment Reference Library, Volume 2: Facility Specific Assessment* and EPA's *Guideline on Air Quality Models* (Appendix W to 40 CFR Part 51).

The site specific assessment assumed a minimum 80% control efficiency for Mn at the boilers. Anthony has not tested the boilers for Mn emissions. Therefore, HBCA demonstration is not complete. This is the only deficiency that has been identified, and Specific Condition #25 is proposed in order to address the deficiency. The condition requires each of the three boilers to be tested and an application to be submitted by March 13, 2007.

7. COMPLIANCE STATUS:

There are currently no enforcement issues or actions against the facility at this time.

8. APPLICABLE REGULATIONS:

PSD Applicability

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

Has this facility undergone PSD review in the past? N Permit#

Is this facility categorized as a major source for PSD?
 ≥ 100 tpy and on the list of 28 (100 tpy)? N
 ≥ 250 tpy all other N

PSD Netting

Was netting performed to avoid PSD review in this permit? N

Source and Pollutant Specific Regulatory Applicability

Source	Pollutant	Regulation [NSPS, NESHAP (Part 61 & Part 63), or PSD only]
12, 13, 16	N/A*	40 CFR Part 60, Subpart Dc
Facility	N/A**	40 CFR Part 63, Subpart DDDD
12, 13, 16	HCl, Hg, TSM, Opacity	40 CFR Part 63, Subpart DDDDD

* The facility is subject to 40 CFR Part 60, Subpart Dc since each boiler's designed input heat capacity exceeds 10 MMBTU/hr. However, each boiler is less than 30 MMBTU/hr. Therefore, no pollutant standard or record keeping for this subpart is applicable.

** The facility is subject to 40 CFR Part 63, Subpart DDDD. Other than initial notification there are no applicable requirements for the existing operations.

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 #1681-AOP-R5	Air Permit #1681-AOP-R6	Change
PM	214.7	189.6	-25.1
PM ₁₀	136.7	139.1	2.4
SO ₂	6.6	6.6	0
VOC	241.7	244.4	2.7
CO	197.1	197.1	0

Plant Wide Permitted Emissions (ton/yr)			
Pollutant	Air Permit #1681-AOP-R5	Air Permit #1681-AOP-R6	Change
NO _x	112.3	112.3	0
Acrolein	2.70	1.80	-0.90
Benzene	2.70	1.80	-0.90
Formaldehyde	3.80	2.90	-0.90
HCl	8.10	5.49	-2.61
Methanol	13.90	13.90	0
Mercury	--	1.88E-04	1.88E-04
Styrene	1.50	0.90	-0.60
TSM	--	3.65	3.65
TSM (excluding Mn)	--	0.0451	0.0451
Arsenic	--	0.00	0.00
Beryllium	--	0.00	0.00
Cadmium	--	8.84E-03	8.84E-03
Chromium	--	8.11E-03	8.11E-03
Lead	--	8.69E-03	8.69E-03
Manganese	--	3.65	3.65
Nickel	--	0.01943	0.01943
Selenium	--	0.00	0.00

10. MODELING:

Criteria Pollutants

Pollutant	Emission Rate (lb/hr)	NAAQS Standard (µg/m ³)	Averaging Time	Highest Concentration (µg/m ³)	% of NAAQS
PM ₁₀	31.9	50	Annual	49.4	98.8%
		150	24-hour	142.7	95.4%
NO _x	25.6	100	Annual	1.2	1.0%
VOC	244.4	0.12	1-hour (ppm)	0.0162	14%
CO	45.0	10,000	8-hour	24.6	<1.00%
		40,000	1-hour	58.9	<1.0%

Odor Modeling

Examination of the source type, location, plot plan, land use, emission parameters, and other available information indicate that modeling is not warranted at this time.

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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*TLV	Proposed lb/hr	Pass?
Acrolein	0.2293	0.0252	0.6	N
Benzene	1.597	0.175	0.6	N
Formaldehyde	0.368	0.04048	1.2	N
Methanol	262.085	28.82935	4.10	Yes
Styrene	85.562	9.41182	0.3	Yes
HCl	7.458	0.82038	1.27	No
Mercury	0.01	0.0011	0.000128	Y
Cadmium	0.01	0.0011	0.00202	N
Chromium	0.01	0.0011	0.00185	N
Lead	0.012	0.00132	0.00199	N
Manganese	0.2	0.022	0.84	N

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 was 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	1.42	Y
Benzene	15.97	1.42	Y
Formaldehyde	3.68	1.42	Y
HCl	74.58	3.01	Y
Cadmium	0.1	0.00478	Y
Chromium	0.1	0.00438	Y
Lead	0.12	0.00471	Y
Manganese	2.0	1.96	Y
Nickel	1.0	0.0106	Y

11. 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/unc controlled, etc)
03	AP-42	0.03 gr/scf 27,000 cfm	none	N/A	planer mill cyclone #1
04	AP-42	0.03 gr/scf 13,000 cfm	none	N/A	planer mill cyclone #2
06	AP-42	0.02 lb PM/ton (debarking) 0.011 lb PM ₁₀ /ton (debarking) 0.35 lb PM/ton (sawing) 0.2 lb PM ₁₀ /ton (sawing)	none	N/A	uncontrolled, non-fugitive PM emissions
07	AP-42	1.0 lb PM/ton (vent) 0.58 lb PM ₁₀ /ton (vent) 2.0 lb/ton (loadout) 1.2 lb PM ₁₀ /ton (loadout)	none	N/A	uncontrolled, non-fugitive PM emissions
02, 14	Industry Average NCASI	3.5 lb VOC/MBF 0.205 lb MeOH/MBF 0.016 lb Formaldehyde/MBF	none	N/A	uncontrolled VOC and HAP emissions
12, 13, 16	AP-42	4,350 Btu/lb fuel	cyclones	99%	Heating Value for Fuel (wood waste)
18	AP-42	1 lb PM/ton wood 0.36 lb PM ₁₀ /ton wood	none	N/A	uncontrolled PM emissions

12. TESTING REQUIREMENTS:

This permit requires stack testing of the following sources.

SN(s)	Pollutant	Test Method	Test Interval	Justification For Test Requirement
16	PM ₁₀	201A or 202	Pass- Once every five years Fail- Once every other year	Dept. Guidance
12 13 16	Mn	29	Once every five years	Mn HBCA Compliance Demonstration

SN(s)	Pollutant	Test Method	Test Interval	Justification For Test Requirement
12 13 16	HCl, Hg, and TSM (excluding Mn)	Fuel Analysis*	Once every five years	40 CFR Part 63, Subpart DDDDD

* Anthony Forest Products received authorization to perform alternate tests methods from the EPA following review of the site-specific plan for fuel analysis sampling.

13. 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)**
12	Opacity	COMS	Continuously	Y
13	Opacity	COMS	Continuously	Y
16	Opacity	COMS	Continuously	Y

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

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

14. 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)**
12, 14	Wet Lumber Throughput	195 MMBF/yr	Monthly	Y
06	Logs Debarked and Sawed	650,000 tons/yr	Monthly	Y
07	Dry Lumber Throughput	195 MMBF/yr	Monthly	Y
12	Steam Produced	489,600 lb steam/day 178.7 MM lb steam/yr	Daily	Y
13	Steam Produced	489,600 lb steam/day 178.7 MM lb steam/yr	Daily	Y
16	Steam Produced	489,600 lb steam/day 178.7 MM lb steam/yr	Daily	Y

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

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

15. OPACITY

SN	Opacity %	Justification (NSPS limit, Dept. Guidance, etc)	Compliance Mechanism (daily observation, weekly, control equipment operation, etc)
03, 04	20	Regulation 19	Daily observation
12,13,16	20	40 CFR Part 63, Subpart DDDDD	COMS

16. DELETED CONDITIONS:

The previous permit contained the following deleted Specific Conditions.

Former SC	Justification for removal
18, 19	40 CFR Part 63, Subpart DDDDD monitoring requirements are more frequent than daily observations

17. VOIDED, SUPERSEDED OR SUBSUMED PERMITS

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

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18. CONCURRENCE BY:

The following supervisor concurs with the permitting decision:

 Phillip Murphy, P.E.
 Engineering Supervisor, Air Division