STATEMENT OF BASIS

For the issuance of Draft Air Permit # 0559-AOP-R3 AFIN: 33-00013

1. PERMITTING AUTHORITY:

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

2. APPLICANT:

Century Flooring Company
State Highway 9 Spur
Melbourne, Arkansas 72556

3. PERMIT WRITER:

John Bailey

4. PROCESS DESCRIPTION AND NAICS CODE:

NAICS Description: Hardwood Flooring - Other Millwork
NAICS Code: 321918

5. SUBMITTALS:

March 25, 2005, August 15, 2005 and September 2, 2005

6. REVIEWER'S NOTES:

Century Flooring Company (Century) owns and operates a hardwood flooring mill located in Melbourne, Izard County, Arkansas (AFIN: 33-00013). The facility has submitted an application for a Title V Renewal in accordance with Regulation 26 – *Regulations of the Arkansas Operating Air Permit Program*. Along with a permit renewal the facility is modifying their permit to allow for the installation of four (4) new lumber kilns, the revision of emission factors used at the boiler from stack testing, and the removal of a natural gas fired curing oven. These changes to the permit resulted in the reduction of permitted emissions of 58.2 tons per year for particulate matter, 23.1 tons per year for sulfur dioxide, 139.9 tons per year of volatile organic compounds (VOC), and 137.5 tons per year of carbon monoxide (CO).

On the previous application SN-01 through SN-03 used AP-42 emission factors and assumed 99.9% efficiency. The permit renewal used informal emission testing results performed on the sanding baghouse which results in a higher PM/PM_{10} emissions. The baghouses are not subject to CAM because it has been determined that the equipment is

inherent to the process. The facility has stated the baghouses were installed to remove the wood residuals from the saws, planers, tongue and grove machines, and sanders to allow for proper and safe operation of the equipment. Cyclones have been accepted as equipment inherent to the process at several saw mills throughout the state.

The power house cyclone has been deleted from the permit because it is now a closed loop system in which the exhaust of the cyclone is sent to the Cyclone Return Baghouse (SN-02). Emissions from the cyclone are accounted for at SN-02.

Emissions testing was performed on the Deltak boiler (SN-05) for all criteria pollutants and emission rates plus a safety factor was used to determine the emission rates. PM, SO_2, and NO_X emissions have increased as a result of the testing. CO emissions have decreased. Although several controls were replaced with newer equipment this was not considered a modification and therefore the boilers are still not subject to NSPS Dc. According to the facility the Deltak (SN-5) is the main boiler for the plant and is only shutdown for maintenance requirements. At that time the Keeler (SN-06) is started up to provide the necessary steam for operation. A specific condition was added to the permit to allow the facility one hour of simultaneous operation between start-ups and shutdowns. Multiclones are installed on the boilers as standard equipment to prevent burning embers from escaping the stack for safe functioning of the facility.

In the prefinishing area sources SN-07 through SN-11 the natural gas fired curing oven (SN-11) was removed from service and replaced with a UV curing oven. The facility was able to use stains, seal coats, and top coats with lower VOC content resulting in a VOC reduction of 94 tons per year.

The lumber kilns were regrouped into one source (SN-17). The SOB stated that an "ADPCE" emission factor of 1.0 lb VOC/MBf was used. The current application referenced a report prepared by Oregon State University, published on September 29, 2000. In the report an emission factor of 0.26 lb VOC/MBF was used. This would account for the Kiln emissions going down even though 4 new kilns are being added.

The 10,000 gallon diesel tank was moved to the Insignificant Activity list in accordance with the Group A3 listing.

The facility is reducing the number of hours of operation for the diesel generator (SN-19) from 7,200 hours to 1,000 hours per year. AP-42 emission factors were used based upon a 912 hp generator.

The facility requested that woodwaste loadout limits be increased from 26,750 tons per year to 30,000 tons per year. In the application the facility used grain elevator emission factors, however the factor was changed to use the more accurate loadout emission factor per Department Guidance.

The Chemical Dip Vat (SN-21) has been removed from service. The source had been removed from the permit.

7. COMPLIANCE STATUS:

According to CAO LIS#: 04-103 the facility was required to perform stack testing on the Deltak boiler (SN-05) because of control upgrades made to the boiler. Upon completion of the stack testing the facility found that NO_X and CO emissions exceeded interim limits established in the CAO. Emissions established in the Title V renewal have been found acceptable and will exceed the highest stack testing rates.

CAO LIS#: 04-104 established interim emission limits for the Deltak boiler (SN-05) until the Title V renewal can be issued. These interim emissions were based upon the stack test performed on the boiler and have been carried over to the Title V renewal.

8. APPLICABLE REGULATIONS:

PSD Applicability

Did the facility undergo PSD review in this permit (i.e., BACT, Modeling, etc.)?	N
Has the facility undergone PSD review in the past?	N
Is the facility categorized as a major source for PSD?	N
≥ 100 tpy and on the list of 28?	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

9. EMISSION CHANGES:

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

Plantwide Permitted Emissions (tpy)			
Pollutant	Permit # 0559-AOP-R2	Permit #0559-AOP-R3	Change
PM	191.1	132.9	-58.2
PM_{10}	191.1	132.9	-58.5
SO_2	29.4	6.3	-23.1
VOC	162.8	22.9	-139.9

Plantwide Permitted Emissions (tpy)			
CO	220.3	82.8	-137.5
NO_x	91.9	91.1	-0.8
Diethylene Glycol Monomethyl Ether	12.20	0	-12.20
Ethyl Benzene	2.00	0.20	-1.80
Formaldehyde	0.10	0.99	+0.89
Methanol	2.20	3.12	+0.92
MIBK	40.00	5.69	-34.31
Propylene Glycol Monomethyl Ether	36.20	0.0	-36.20
Prooylene Glycol Monoethyl Ether Acetate	17.00	0.0	-17.00
Toluene	9.70	0.19	-7.81
Xylene	8.00	0.20	-7.80
Acrolein	0	0.83	+0.83
Arsenic	0	0.01	+0.01
Chlorine	0	0.16	+0.16
Hydrogen Chloride	0	4.00	+4.00
Lead	0	0.01	+0.01
Manganese	0	0.33	+0.33
MEK	0	5.69	+5.69

10. MODELING:

Criteria Pollutants

Pollutant	Emission Rate (lb/hr)	NAAQS Standard ($\mu g/m^3$)	Averaging Time	Highest Concentration ($\mu g/m^3$)	% of NAAQS
PM10	31.9	50	Annual	5.32	11%
		150	24-Hour	40.64	27%

Non-Criteria Pollutants:

1st Tier Screening (PAER)

This permit contains a TLV table for non-criteria pollutants for SN-07, 08, 09, and 10. Modeling was used to determine the permitted emission rates for ranges of non-criteria pollutants (grouped by TLV) that pass the PAER or PAIL. Therefore, modeling of specific non-criteria pollutants was not performed.

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/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	0.23	0.0253	0.19	No
Arsenic	0.01	0.0011	0.0046	No
Chlorine	1.45	0.16	0.04	Yes
Ethylbenzne	434.19	47.76	0.10	Yes
Formaldehyde	0.37	0.041	0.21	No
Hydrogen Chloride	2.99	0.33	0.91	No
Lead	0.43	0.048	0.01	Yes
Manganese	0.45	0.0495	0.08	No
Toluene	188.4	20.73	0.05	Yes
Xylene	43.42	4.77	0.10	Yes

2nd Tier Screening

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 has been deemed by the Department to be one one-hundredth of the Threshold Limit Value as listed by the ACGIH.

Pollutant	PAIL ($\mu g/m^3$) = 1/100 of Threshold Limit Value	Modeled Concentration ($\mu g/m^3$)	Pass?
Acrolein	2.3	0.243	Y
Arsenic	0.1	0.00128	Y
Formaldehyde	3.7	1.63	Y
Hydrogen Chloride	29.9	1.163	Y
Manganese	4.5	0.101	Y

11. CALCULATIONS:

SN	Emission Factor Source (AP-42, testing, etc.)	Emission Factor (lb/ton, lb/hr, etc.)	Control Equipment	Control Equipment Efficiency	Comments
01-03	Testing	0.01 grains/dscf	Baghouse	99.9%	Testing was performed on the baghouse to establish the emission factor.
05 & 06	Stack Testing	PM – 25.0 #/hr PM10 – 25.0 #/hr SO2 – 1.0 #/hr NOx – 18.3 #/hr CO – 18.3 #/hr VOC – 0.7 #/hr	Multiclone	85.0%	Emission rates based upon stack testing.
7-10	Mass Balance	MSDS	NA	NA	A mass balance will be used to determine VOC and HAP emissions.
17	Test Report	0.26 #VOC/MBF	NA	NA	Report was prepared by Oregon State University on September 29, 2000. "Small Scale Kiln Study"
19	AP-42 Ch 3.4 Table 3.4-1	PM – 0.0007 #/hp-hr PM_{10} – 0.0007 #/hp-hr SO2 – 0.0040 #/hp-hr NOx – 0.0240 #/hp-hr CO – 0.0055 #/hp-hr VOC – 0.0007 #/hp-hr	NA	NA	912 hp emergency generator
20	ADEQ Guidance	PM – 0.0022 lb/ton PM_{10} – 0.00018 lb/ton	NA	NA	Dept. Guidance memo dated August 22, 2003 was used to determine loadout emission factor. 25.0 ton/hr 30,000 ton/yr

12. TESTING REQUIREMENTS:

The permit requires testing of the following sources.

SN	Pollutants	Test Method	Test Interval	Justification
05	PM_{10}	5 and 202	Once every 5 years	Emissions exceed Title V alone
05	CO	10	Once every 5 years	Due to changes at the boiler and to ensure complete combustion in the chamber.

13. RECORD KEEPING 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)
05 and 06	Boiler operation	1 hour	As needed for Start-up/Shutdown	N
7-10	VOC and HAP content	Various	Monthly	Y
17	Kiln dried lumber	50 MMBF	Monthly	Y
19	Diesel Generator Operation	1,000 hours	Monthly	Y
20	Woodwaste Loadout	30,000 tons	Monthly	Y

15. OPACITY:

SN	Opacity	Justification for limit	Compliance Mechanism
01-03	5%	18.501	Weekly Observations
05 and 06	20%	19.503	Daily Observations
19	20%	19.503	Daily Observations when in operation

SN	Opacity	Justification for limit	Compliance Mechanism
20	10%	18.501	Weekly Observations

16. DELETED CONDITIONS:

Former SC	Justification for removal
9-11	Emissions are based upon maximum capacity of the equipment and there is no correlation between the emission calculations and steam production.
19-21	Diesel storage tank is listed as an insignificant activity.
27-30	Chemical Dip Vat was never installed and is being removed from the permit.

17. VOIDED, SUPERCEDED, OR SUBSUMED PERMITS:

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

Permit #
0559-AOP-R2

18. CONCURRENCE BY:

The following supervisor concurs with the permitting decision.

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David Triplett, P.E.