Equipment Location
Weyerhaeuser Company
601 East Ball Road
Anaheim, CA. 92805

PERMIT TO CONSTRUCT
RECLAIM/TITLE V

Title V Permit Revision:
Application No. 470657

Equipment Description:

Equipment Description

Equipment	Device ID	Connected To	Source Type/ Monitoring Unit	Emissions	Equipment Specific Conditions
PROCESS 1: PAPER BOX MANUFACTURING					
SYSTEM 3: PRINTING SYSTEM					S2.1, S13.1
PRINTING PRESS, FLEXOGRAPHIC , HAMADA, MODEL MINERVA-M FFG, SERIAL NO. RA-160, THREE COLOR, 98 INCH SHEET WIDTH, AIR DRIED Reference A/N 470658	D54			VOC: (9) RULE 1130, 10-8-1999; RULE 1171, 11-7-2003; RULE 1171, 7-14-2006	B59.6, B89.4

Conditions:

S2.1 THE OPERATOR SHALL LIMIT EMISSIONS FROM THIS SYSTEM AS FOLLOWS

CONTAMINANT	EMISSIONS LIMIT
VOC	LESS THAN OR EQUAL TO 1500 LBS IN ANY ONE MONTH

To ensure compliance with the monthly Volatile Organic Compound(VOC) emission limit(s) of this condition, the operator shall comply with the following recordkeeping requirements:

(1) The operator shall comply with Rule 109 (Recordkeeping for Volatile Organic Compound Emissions).

(2) Within 14 calendar days after the end of each month, the operator shall total and record VOC emissions for the month from all equipment and operations covered by the monthly emission limit(s). The record shall include any procedures used to account for control device efficiencies and/or waste disposal. It shall be signed and certified for accuracy by the highest ranking individual responsible for compliance with District rules.

(3) The operator shall maintain a single list which includes only the name and address of each person from whom the facility acquired VOC-containing material regulated by the District that was used or stored at the facility during the preceding 12 months.

(4) The operator shall retain all purchase invoices for all VOC-containing material used or stored at the facility, and all waste manifests for all waste VOC-containing material removed from the facility, for five years.

S13.1 ALL DEVICES UNDER THIS SYSTEM ARE SUBJECT TO THE APPLICABLE REQUIREMENTS OF THE FOLLOWING RULES OR REGULATIONS:

CONTAMINANT	RULE	RULE/SUBPART
VOC	DISTRICT RULE	109

B59.6 THE OPERATOR SHALL ONLY US THE FOLLOWING MATERIAL(S) IN THIS DEVICE:

Materials containing any of the compounds identified in the SCAQMD Rule 1401 except ammonia, isopropyl alcohol, acetaldehyde, formaldehyde and vinyl acetate, as amended March 4, 2005 or earlier.
[Rule 1401, 3-4-2005]

B89.4 THE OPERATOR SHALL NOT USE INKS WITH VOC CONTENT GREATER THAN 1.5 POUNDS PER GALLON, LESS WATER AND EXEMPT COMPOUNDS.
[RULE 1303(a)(1)-BACT, 5-10-1996]

BACKGROUND

Weyerhaeuser submitted this application on 6/21/07 for a permit to construct a new flexographic printing press. The existing Process1, system 3 (Printing System) in Weyerhaueser's Title V Permit stipulates a combined system (system condition S2.1) limit of 1500 lbs VOC/month for all the flexographic printing presses. The new flexographic printing press will be bubbled into the current system limitation of 1500 lbs VOC/month. This press is being installed to replace the existing press D9 (a/n 203605).

There are no complaints or notices of violations issued to this facility in the last two years.

Process Description:
This equipment, referred also as a flexo folder gluer, is used to print color and graphic images onto coated or uncoated corrugated paper sheets.

Corrugated sheets are fed into the equipment at the feeder end. Ink is applied to analox rolls, then transferred onto rotary printing dies. The printing dies then apply ink onto the corrugated sheets. Low-VOC, water-based flexographic printing inks are used exclusively. More than 200 different color inks are used and the VOC content will vary slightly, depending on color. The inks are air dried. The VOC emissions from this equipment are vented directly to the atmosphere from a single, overhead roof vent. There is no stack associated with this process.

Printed sheets are slotted, scored and diecut. Paper scrap from these operations are removed via vacuum ducts into a scrap conveyor system (Cyclone).

A "glue lap" adhesive is then applied as a thin bead onto the corrugated sheet via an applicator roll, just prior to the folding operation. The adhesive is a water based, polyvinyl emulsion, chemically and functionally similar to Elmer's Glue. It is applied at ambient temperature and is air dried. The adhesive contains low levels of VOC and trace amounts of hazardous air pollutants.

Clean-up is generally performed with water only, although very small amounts (spray pump bottles) of water based cleaner (rule 1130 compliant) may be used. Organic solvents are not used on this equipment for clean-up.

The planned operating schedule is 24 hrs/day, 6 days/week and 52 weeks/year. The maximum schedule would be 7 days/week.

Emission Calculation

Application 470658 Flexographic Printing Press

Operating schedule
24 hrs/day, 6 days/week, 52 weeks/year

Facility Monthly cap for 12 presses
1500 lbs/month
Hourly ROG:
R1 = R2 = 1500/30/24/12 = 0.174 lbs/hrs

The actual emission for this equipment will be bubbled under the facility cap of 1500 pounds VOC per month.

Risk Assessment:
This equipment will be conditioned such that no toxics listed in 1401 will be used in this equipment except Ammonia, Isopropyl Alcohol, Acetaldehyde, formaldehyde and vinyl acetate.

The Maximum ammonia emissions are calculated as follows.
BACT Voc limit is 1.5 lbs/gal
Max VOC limitation is 1500 lbs/month

Ink Usage
= (1500 lbs/month)/(1.5 lbs/gal)
= 1000 gal/month

Max Ammonia Content
MW_{NH4OH} = 35.046
MW_{NH3} = 17.03
NH_3/NH_4OH = 0.4859
3.0%(0.4859) = 1.457%

Max. Density of INK - 10.5 lbs/gal

(1000 gal/month)(10.5 lbs/gal)(0.01457) = 152.98 lbs NH3/month
(152.98 lbs NH3/month)/(30day/month)/(24 hrs/day) = 0.212 lbs/hr

IPA
Assume worst case:
1500 lbs IPA/month/30 day/month/(24 hrs/day) = 2.08 lbs/hr

Adhesive:
(1000 gal/month)(9.16lbs/gal) = 9,160 lbs/month

Acetaldehyde:

(9160 lbs/month)(0.0004 lb ace/lb adhv)/(30 day/month)/24 hrs/day)
= 0.00509 lbs/hr

Form
(9160 lbs/month) (0.0001 lb form/lb adhv)/(30 day/month)/24hrs/day)
= 0.00127 lbs/hr

Vinyl Acetate
(9160 lbs/month)(0.0008 lb VA/lb adhv)/(30 day/month)/24hrs/day)
= 0.01018 lbs/hr

MICR

Residential	Commercial
2.50E-07	9.45E-08
Pass	Pass

Chronic and Acute are all less than 1.0 for the targeted organs. See Risk assessment in appendix.

The emissions estimate is based on a maximum ink usage which is actually distributed among 11 other presses. These values represent an extreme worst case which is highly unlikely to occur. Further, the replacement of the press is exempt from the requirements of Rule 1401, since there is no increase in emissions (emissions from the new printing press are bubbled under the existing cap of 1500 lbs/month VOC).

RULE EVALUATION

Rule 212 (c)(1):This section requires a public notice for all new or modified permit units that emit air contaminants located within 1,000 feet from the outer boundary of a school.

No public notice is required since no school is located within 1,000 ft from the above site.

Rule 212 (c)(2):This section requires a public notice for all new or modified facilities that have on-site emission increases exceeding any of the daily maximums as specified by Rule 212(g).

The proposed project will not result in an emission increase from the facility. A Rule 212(c) (2) notice will not be required.

Rule 212(c)(3):This section requires a public notice for all new or modified permit unit with increases in emissions of toxic air contaminants listed in Table I of Rule 1401 resulting in MICR greater than 1E-6 per permit unit or greater than 10E-6 per facility.

The replacement of the printing press will not result in an emission increase of toxic emissions associated with the operation of the new flexographic printing press. In addition, as discussed in additional detail in the evaluation, the toxic emissions from this equipment will not result in an increase in MICR of more than 1 x 10^{-6} nor a hazard index greater than 1.0. Public notice is not required under this section of the rule.

Rule 212(g): This section requires a public notice for all new or modified sources that result in emission increases exceeding any of the daily maximums as specified by Rule 212(g).

The emission increase due to the addition of this press is summarized below:

	Maximum Daily Emissions					
	ROG	NO_x	PM_{10}	SO_2	CO	Pb
Emission increase	0	0	0	0	0	0
MAX Limit (lb/day)	**30**	**40**	**30**	**60**	**220**	**3**
Compliance Status	Yes	Yes	Yes	Yes	Yes	Yes

A Rule 212(g) notice will not be required since the press is a "functionally identical replacement not located within 1,000 feet of a school".

Rule 401: With proper operation and maintenance compliance with this rule is expected.

Rule 402: With proper operation and maintenance compliance with this rule is expected.

Rule 1130: The VOC content of the inks used in this press range from <10gm/lt to 134 gm/lt which is below the 225 gm/lt as required by this rule. compliance with this rule is expected.

Rule 1171: The materials used to clean-up this equipment will not exceed 25 gm/lt and generally use water for clean-up.

REGULATION XIII: Though Weyerhaueser is a NOx RECLAIM facility, compliance with Reg. XIII is still required since the proposed project will result in VOC emissions. The non-RECLAIM pollutants from the proposed new press are as follows:

ROG (lb/day)
50.0

RULE 1303(a)(1): The flexographic printing press utilizes inks that are less than 1.5 lbs/gal which will satisfy the BACT requirements.

RULE 1303(b)(1): No modeling is required for ROG.

RULE 1303(b)(2): The proposed project will result in an ROG emission of 50.0 lbs/day. The emissions from this device will be bubbled into the current 1500 lbs/month (50 lbs/day) system cap. No offsets will be required.

RULE 1303(b)(4): The facility is expected to be in full compliance with all applicable rules and regulations of the District.

RULES 1303(b)(5)(A) & 1303(b)(5)(D): Since the proposed project does not result in an increase of VOC emissions from the facility, the proposed project does not qualify as a major modification at a major polluting facility. Further, the proposed project is exempt from CEQA according to the responses Weyerhaueser provided on Form 400-CEQA for this project. Their responses in “Review of Impacts Which May Trigger CEQA” on Form 400-CEQA were all marked “No”.

RULE 1303(b)(5)(B): The Increase in emissions associated with the proposed addition of this press does not cause the facility’s

potential to emit to increase and therefore does not qualify as a major modification at an existing major polluting facility.

RULE 1303(b)(5)(C): A modeling analysis for plume visibility is not required since the net emission increase from the proposed project does not exceed 15 ton/yr of PM10 or 40 ton/yr of NOx.

Rule 1401: Toxics: Rule 1401 contains the following requirements:

1) *(d)(1) MICR and Cancer Burden* - The cumulative increase in MICR which is the sum of the calculated MICR values for all toxic air contaminants emitted from the new, relocated or modified permit unit will not result in any of the following:
   (A) an increased MICR greater than one in one million (1.0×10^{-6}) at any receptor location, if the permit unit is constructed without T-BACT;
   (B) an increased MICR greater than ten in one million (1.0×10^{-5}) at any receptor location, if the permit unit is constructed with T-BACT;
   (C) a cancer burden greater than 0.5.

2) *(d)(2) Chronic Hazard Index* - The cumulative increase in total chronic HI for any target organ system due to total emissions from the new, relocated or modified permit unit will not exceed 1.0 at any receptor location.

3) *(d)(3) Acute Hazard Index* - The cumulative increase in total acute HI for any target organ system due to total emissions from the new, relocated or modified permit unit will not exceed 1.0 at any receptor location.

The replacement of the press is exempt from the requirements of Rule 1401, since there is no increase in emissions (emissions from the new printing press are bubbled under the existing cap of 1500 lbs/month VOC). Further, based on the Risk assessment performed using the Risk Assessment Module, this press passed Tier 2 modeling. The MICR values were determined to be 2.5E-07 and 9.45E-

08 for residential and commercial. The Acute and Chronic values for all target organs did not exceed 1.0. The values are presented in the Risk Assessment in the appendix.

REG XX Weyerhaeuser is a NOx cycle 1 RECLAIM facility. The proposed press will not produce any combustion contaminants thus will not affect their RECLAIM allocation.

REGULATION XXX:

This facility is in the RECLAIM program. The proposed project is considered as a "de minimis significant permit revision" for non-RECLAIM pollutants or hazardous air pollutants (HAPs).

Non-RECLAIM Pollutants or HAPs

Rule 3000(b)(6) defines a "de minimis significant permit revision" as any Title V permit revision where the cumulative emission increases of non-RECLAIM pollutants or HAPs from these permit revisions during the term of the permit are not greater than any of the following emission threshold levels:

Air Contaminant	Daily Maximum (lbs/day)
HAP	30
VOC	30
NOx*	40
PM10	30
SOx*	60
CO	220

* Not applicable if this is a RECLAIM pollutant

To determine if a project is considered as a "de minimis significant permit revision" for non-RECLAIM pollutants or HAPs, emission increases for non-RECLAIM pollutants or HAPs resulting from all permit revisions that are made after the issuance of the Title V renewal permit shall be accumulated and compared to the above threshold levels.

This proposed project is the second permit revision to the Title V renewal permit issued to this facility on November 12, 2004. The following table summarizes the permit revisions since the Title V renewal permit was issued:

Revision	HAP	VOC	NOx*	PM10	SOx	CO
Previous Permit Revision Total Cummulative to date. Title V permit renewed Nov. 12, 2006	0	0	0	0	0	0
5th Permit Revision; addition of a Flexographic Printing Press (device no. D54),	0	0	0	0	0	0
Cumulative Total	0	0	0	0	0	0
Maximum Daily	30	30	40*	30	60	220

* RECLAIM pollutant, not subject to emission accumulation requirements

Since the cumulative emission increases resulting from all permit revisions are not greater than any of the emission threshold levels, this proposed project is considered as a “de minimis significant permit revision” for non-RECLAIM pollutants or HAPs.

COMCLUSION and RECOMMENDATION

The proposed project is expected to comply with all applicable District Rules and Regulations. Since the proposed project is considered as a “de minimis significant permit revision” for non-RECLAIM pollutants and a “minor permit revision”, for RECLAIM pollutant, it is exempt from the public participation requirements under Rule 3006 (b). A proposed permit incorporating this permit revision will be submitted to EPA for a 45-day review pursuant to Rule 3003(j). If EPA does not raise any objections within the review period, a revised Title V permit will be issued to this facility.

A/N: 470658 Date: 11/10/06

TIER 2 RESULTS

5. MICR

MICR = CP (mg/(kg-day))^-1 * Q (ton/yr) * (X/Q) * Afann * Met * DBR * EVF * 1.E-6 * MP

Compound	Residential	Commercial
Ammonia		
Isopropyl alcohol		
Acetaldehyde	1.64E-07	6.20E-08
Formaldehyde	8.60E-08	3.25E-08
Vinyl acetate		
Total	**2.50E-07**	**9.45E-08**
	Pass	**Pass**

No Cancer Burden, MICR<1.E=-6

5a. Cancer Burden		no
X/Q for one-in-a-million:		
Distance (meter		no data
Area (km2):		
Population:		
Cancer Burden:		

6. Hazard Index

HIA = [Q(lb/hr) * (X/Q)max] * AF / Acute REL

HIC = [Q(ton/yr) * (X/Q) * MET * MP] / Chronic REL

Target Organs	Acute	Chronic
Alimentary system (liver) - AL		
Bones and teeth - BN		
Cardiovascular system - CV		
Developmental - DEV		6.40E-03
Endocrine system - END		
Eye	2.66E-01	9.11E-03
Hematopoietic system - HEM		
Immune system - IMM	4.92E-03	
Kidney - KID		6.40E-03
Nervous system - NS		
Reproductive system - REP		
Respiratory system - RES	2.66E-01	4.52E-02
Skin		

TIER 2 SCREENING RISK ASSESSMENT

A/N:	470658
Fac:	Weyerhaeuser

Application deemed complete date: 11/10/06

2. Tier 2 Data

MET Factor	0.56
4 hr	0.95
6 or 7 hrs	0.81

Dispersion Factors

5	3A & 3B For Chronic X/Q
7	For Acute X/Q

Dilution Factors (ug/m3)/(tons/yr)

Receptor	X/Q	X/Qmax
Residential	4.5488	203.596
Commercial	8.8	364.476

Adjustment and Intake Factors

	Afann	DBR	EVF
Residential	1	302	0.96
Worker	1	149	0.38

3. Rule 1401 Compound Data

Code	Compound	R1 - uncontrolled (lbs/hr)	R2 - controlled (lbs/hr)	CP	MP MICR Resident	MP MICR Worker	MP Chronic Resident	MP Chronic Worker	REL Chronic	REL Acute
a9	Ammonia	2.12E-01	2.12E-01		1	1	1	1	200	3200
i2	Isopropyl alcohol	2.08E+00	2.08E+00		1	1	1	1	7000	3200
a1	Acetaldehyde	5.09E-03	5.09E-03	1.00E-02	1	1	1	1	9	
f3	Formaldehyde	1.27E-03	1.27E-03	2.10E-02	1	1	1	1	3	94
v3	Vinyl acetate	1.02E-02	1.02E-02		1	1	1	1	200	
					1	1	1	1		
					1	1	1	1		
					1	1	1	1		
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4. Emission Calculations

	uncontrolled	controlled		
Compound	R1-lb/hr	R2-lb/hr	R2-lb/yr	R2-ton/yr
Ammonia	2.12E-01	2.12E-01	1852.032	0.926016
Isopropyl alcohol	2.08E+00	2.08E+00	18170.88	9.08544
Acetaldehyde	5.09E-03	5.09E-03	44.46624	0.0222331
Formaldehyde	1.27E-03	1.27E-03	11.09472	0.0055474
Vinyl acetate	1.02E-02	1.02E-02	88.93248	0.0444662
Total	2.31E+00	2.31E+00	2.02E+04	1.01E+01

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6a. Hazard Index Acute HIA = [Q(lb/hr) * (X/Q)max] *AF/ Acute REL

	HIA - Residential								
Compound	AL	CV	DEV	EYE	HEM	IMM	NS	REP	RESP	SKIN
Ammonia				1.35E-02					1.35E-02	
Isopropyl alcohol				1.32E-01					1.32E-01	
Acetaldehyde										
Formaldehyde				2.75E-03		2.75E-03			2.75E-03	
Vinyl acetate										
Total				1.49E-01		2.75E-03			1.49E-01	

	HIA - Commercial									
Compound	AL	CV	DEV	EYE	HEM	IMM	NS	REP	RESP	SKIN
Ammonia				2.41E-02					2.41E-02	
Isopropyl alcohol				2.37E-01					2.37E-01	
Acetaldehyde										
Formaldehyde				4.92E-03		4.92E-03			4.92E-03	
Vinyl acetate										
Total				2.66E-01		4.92E-03			2.66E-01	

6b. Hazard Index Chronic

HIC = [Q(ton/yr) * (X/Q) * MET * MP] / Chronic REL

	HIC - Residential												
Compound	AL	BN	CV	DEV	END	EYE	HEM	IMM	KID	NS	REP	RESP	SKIN
Ammonia												1.18E-02	
Isopropyl alcohol				3.31E-03					3.31E-03				
Acetaldehyde												6.29E-03	
Formaldehyde						4.71E-03						4.71E-03	
Vinyl acetate												5.66E-04	
Total				3.31E-03		4.71E-03			3.31E-03			2.34E-02	

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	HIC - Commercial												
Compound	AL	BN	CV	DEV	END	EYE	HEM	IMM	KID	NS	REP	RESP	SKIN
Ammonia												2.28E-02	
Isopropyl alcohol				6.40E-03					6.40E-03				
Acetaldehyde												1.22E-02	
Formaldehyde						9.11E-03						9.11E-03	
Vinyl acetate												1.10E-03	
Total				6.40E-03		9.11E-03			6.40E-03			4.52E-02	