Jackson, Angelia

From: McNealey, Madison [Madison.McNealey@gapac.com]
Sent: Tuesday, November 15, 2011 3:46 PM
To: Jackson, Angelia; Sarasua, Armando
Cc: Bowling, Cliff; Chang, Eric K.
Subject: EPSAP Application #3026-1, LOW DENSITY PROJECT - 2011; Georgia-Pacific Hosford OSB Facility ID #0770010

Dear Angelia,
As a follow-up to our phone conversation today on the construction permit application #3026-1, for the "Low Density Project – 2011," the 1,110 lb/hr Maximum Process or Throughput Rate on emission unit EU008, is the mass rate of dust fines that goes to the EU008 Forming Bins baghouse. This throughput rate is from the 2004 PSD permit application.

The baghouse already has an established BACT limit of 1.96 lb/hr PM/PM10, which was also from the 2004 PSD permit application, and has been incorporated in the Title V operating permit.

The 0.0035 gr/acfm PM/PM10 was from a 2005 stack test at Hosford and was used to calculate actual emissions for this project in the construction permit application referenced above.

If you have any more additional questions, please do not hesitate to contact us.

Sincerely,
Madison

Madison McNealey
Facility Environmental Coordinator | Georgia-Pacific Wood Products LLC | Hosford OSB
Office 850.379.4038 | Cell 850.228.7581 | Fax 404.654.4909

Curle, Mary Beth

-013-AC

From: Moore, Deborah L.
Sent: Monday, October 17, 2011 7:56 AM
To: Curle, Mary Beth
Subject: FW: Revisions to Emission Calcs - Georgia-Pacific Hosford OSB Low Density Project - Permit Application #3026-1
Attachments: Hosford LDI Table-Emission Calcs Revision (2011-10-01).pdf

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From: Chang, Eric K. [mailto:ERIC.CHANG@GAPAC.com]
Sent: Monday, October 03, 2011 8:44 AM
To: Moore, Deborah L.
Cc: Bowling, Cliff; McNealey, Madison
Subject: Revisions to Emission Calcs - Georgia-Pacific Hosford OSB Low Density Project - Permit Application #3026-1

Hi Debbie,
Per our phone call on September 30, 2011 to discuss questions you had on the Low Density Project permit application, we have corrected the emissions calculations and have attached the revised tables, and hope they have addressed your questions. Please give me a call if you have any additional questions.
Thanks,
Eric

Eric Chang, P.E.
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Table 1 - Project Emissions Compared to PSD Significance Levels (tons per year)

	PM	PM_{10}	$PM_{2.5}$	SO_2	NOx	CO	VOC	Pb	GHG	CO_{2e}
Baseline Actual Emissions (BAE)	132.6	118.6	116.6	16.4	191.2	91.8	130.8	0.032	20,703	23,509
Projected Actual Emissions (PAE)	140.4	125.8	123.6	16.7	200.5	124.9	151.9	0.032	21,254	24,115
Emissions Increase	7.8	7.2	7.1	0.3	9.3	33.1	21.2	0.0006	550	606
PSD Significant Emission Rate (SER)	25	15	10	40	40	100	40	0.6	75,000	75,000
PSD Triggered?	No	No	No	No	No	No	No	No	No	No

1. The GHG and CO_{2e} values do not include biogenic sources of these pollutants.

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Hosford OSB

Summary of Criteria Pollutant Emissions

Unit	PM (Filterable) BAE (tpy)	PM (Filterable) PAE (tpy)	PM (Total) BAE (tpy)	PM (Total) PAE (tpy)	PM_{10} BAE (tpy)	PM_{10} PAE (tpy)	$PM_{2.5}$ BAE (tpy)	$PM_{2.5}$ PAE (tpy)	CO BAE (tpy)	CO PAE (tpy)	VOC BAE (tpy)	VOC PAE (tpy)	SO_2 BAE (tpy)	SO_2 PAE (tpy)	NO_X BAE (tpy)	NO_X PAE (tpy)	Lead BAE (tpy)	Lead PAE (tpy)
EU-001 Dryers	70.9	73.7	88.6	91.8	88.6	91.8	88.6	91.8	91.6	123.3	24.0	35.6	16.4	16.7	187.4	196.0	0.032	0.032
EU-002 Press	3.2	6.0	8.5	11.6	8.5	11.6	8.5	11.6	0.2	1.6	3.8	8.6	0.023	0.024	3.8	4.5	1.90E-05	2.00E-05
EU-003 Screen Fines	1.84	1.9	1.84	1.9	1.84	1.9	1.84	1.9										
EU-004 Saw Trim/Finishing	1.0	1.1	1.04	1.1	1.04	1.1	1.04	1.1			12.5	13.1						
EU-005 Mat Reject/Flying Saw	2.9	3.1	2.95	3.1	2.95	3.1	2.95	3.1			11.0	11.5						
EU-007 Fuel System	0.098	0.10	0.098	0.10	0.098	0.10	0.098	0.10			15.0	15.8						
EU-008 Forming Bins	2.2	2.3	2.2	2.3	2.2	2.3	2.2	2.3			14.3	15.0						
EU-009 Hammermill	0.94	1.0	0.94	1.0	0.94	1.0	0.94	1.0										
EU-010 Blender	0.52	0.53	1.00	1.0	1.00	1.0	1.00	1.0			32.3	33.9						
EU-010 Roads	13.4	14.1	13.4	14.1	2.7	2.8	0.66	0.69										
EU-010 Bark Handling	5.9	6.2	5.9	6.2	2.71	2.8	2.69	2.8										
EU-014 Miscellaneous Coatings	6.0	6.3	6.0	6.3	6.0	6.3	6.0	6.3			17.8	18.6						
Total	**109.1**	**116.3**	**132.6**	**140.4**	**118.6**	**125.8**	**116.6**	**123.6**	**91.8**	**124.9**	**130.8**	**151.9**	**16.4**	**16.7**	**191.2**	**200.5**	**0.032**	**0.032**

Georgia-Pacific Wood Products LLC
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Summary of Greenhouse Gas Emissions - Biogenic CO2 Emissions

Unit	CO_2 BAE (tpy)	CO_2 PAE (tpy)
EU-001 Dryers/EU-011 TOHs	**134,814**	**137,511**

Summary of Greenhouse Gas Emissions - Non-Biogenic GHG Emissions

Unit	CO_2 BAE (tpy)	CO_2 PAE (tpy)	Methane BAE (tpy)	Methane PAE (tpy)	N_2O BAE (tpy)	N_2O PAE (tpy)	CO_{2e} BAE (tpy)	CO_{2e} PAE (tpy)
EU-001 Dryers/EU-011 TOHs	16,116	16,439	46.3	47.2	6.1	6.2	18,969	19,349
EU-002 Press	4,535	4,762	0.086	0.09	0.01	0.009	4,540	4,767
Total	**20,651**	**21,200**	**46.4**	**47.3**	**6.1**	**6.2**	**23,509**	**24,115**

Emissions Increase (PAE - BAE)	**606**
PSD Significant Emission Rate	**75,000**
PSD Triggered	**No**

Emissions increase excludes biogenic CO2 emissions.

Criteria Pollutant Emission Calculations

Pollutant	Fuel Combustion Emission Factors Wood (lb/MMBtu)	Fuel Combustion Emission Factors Natural Gas (lb/MMCF)	BAE Process Emission Factors (lb/ODT)	PAE Process Emission Factors (lb/ODT)	Emission Factor Source	BAE Emissions (tpy)	PAE Emissions (tpy)
PM/PM_{10} (Filterable)			0.31	0.32	1	70.9	73.7
PM (Total)			0.39	0.40	2	88.6	91.8
$PM_{10}/PM_{2.5}$			0.39	0.40	2	88.6	91.8
CO			0.40	0.54	1	91.6	123.3
VOC (as C)			0.11	0.15	1	24.0	35.6
SO_2	0.025	0.60			3	16.4	16.7
NO_X			0.83	0.85	1	187.4	196.0
Lead	4.85E-05				4	0.032	0.032

1. PM (Filterable), CO, NOx, and VOC (as C) process emission factors based on average test results from Hosford in 2007/2008 for BAE.
   PM (Filterable), CO, NOx, and VOC (as C) process emission factors based on maximum test results from Hosford in 2007-2010 for PAE.
2. PM (Total), PM_{10} and $PM_{2.5}$ include PM (Filterable) plus condensable emissions of 0.0782 lb/OD ton from NCASI Wood Products Database February 2010 median (controlled for organics).
3. SO2 emission factor per AP-42 Section 1.6 (September 2003), Table 1.6-2 for wood combustion and AP-42 Section 1.4 (July 1998), Table 1.4-2 for natural gas combustion.
4. Lead emission factor per AP-42 Section 1.6 (September 2003), Table 1.6-4 for wood combustion.

Greenhouse Gas Emission Calculations - Biomass Combustion

Pollutant	Combustion Emission Factor Wood (kg/MMBtu)	Source	BAE Emissions (tpy)	PAE Emissions (tpy)
CO_2	93.8	1	134,814	137,511
Methane	3.20E-02	1	46.0	46.9
N_2O	4.20E-03	1	6.0	6.2
CO_{2e}		2	137,651	140,404

1. Emission factors taken from EPA's GHG Mandatory Reporting Rule for biomass combustion, Table C-1 and C-2 contained in 40 CFR 98, Subpart C.
2. CO_{2e} emisions are the sum of CO_2 emissions plus methane and N_2O multiplied by their respective Global Warming Potential (GWP) of 21 and 310, respectively.

Greenhouse Gas Emission Calculations - Fossil Fuel Combustion

Pollutant	Combustion Emission Factor Natural Gas (kg/MMBtu)	Source	BAE Emissions (tpy)	PAE Emissions (tpy)
CO_2	53.02	1	16,116	16,439
Methane	1.00E-03	1	0.30	0.31
N_2O	1.00E-04	1	0.030	0.031

1. Emission factors taken from EPA's GHG Mandatory Reporting Rule for natural gas combustion, Table C-1 and C-2 contained in 40 CFR 98, Subpart C.
2. CO_{2e} emisions are the sum of CO_2 emissions plus methane and N_2O multiplied by their respective Global Warming Potential (GWP) of 21 and 310, respectively.