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BUREAU OF AIR REGULATION

September 14, 2004

Bruce Mitchell
Florida Department of Environmental Protection
Division of Air Resource Management
2600 Blair Stone Road MD 5500
Tallahassee, Florida 32399-2400

Subject: International Paper Pensacola Mill – Submittal of Additional Copies of Replacement Sections to the Mill Viability Project Phase II PSD Application

Dear Mr. Mitchell:

Per your request, enclosed are the two (2) additional copies of the replacement sections to the Phase II PSD Application for the Mill Viability Project at International Paper Company's (IP's) Pensacola Florida Mill. In addition, two (2) copies of the air quality modeling CD are enclosed as well as a single CD that contains technical bulletins prepared by the National Council for Air and Stream Improvement (NCASI). The NCASI technical bulletins were used to develop emissions data for selected emissions units and copies of these bulletins were requested by the Florida Department of Environmental Protection (DEP).

If you requires additional copies of the enclosed information please contact Mr. Jim Spahr of the IP Pensacola Mill at 850-968-2121 extension 3833 or Mr. Dan Holland of All4 Inc. (All4) at 610-933-5246 extension 15.

Sincerely,
All4 Inc.

Dan Holland

Dan Holland
Project Manager

Colin McCall
20
cmccall@all4inc.com

cc: Jim Spahr – International Paper
Bill Straub All4

TABLE B-1 (Revised September 2004)
IP PENSACOLA MILL
PROJECT BOB
PRELIMINARY EMISSIONS INVENTORY
PSD APPLICABILITY ANALYSIS

PROJECT EMISSIONS INCREASE FROM MODIFIED UNITS ONLY

POLLUTANT	BASELINE EMISSIONS (2002/2001) (tons/yr)	FUTURE POTENTIAL TO EMIT (tons/yr)	PROJECT-RELATED EMISSIONS INCREASE (tons/yr)
CO	777.10	3,301.08	2,523.99
NO_X	747.98	1,578.80	830.82
PM	318.20	586.35	268.16
PM_{10}	318.20	586.35	268.16
SO_2	114.16	1,354.44	1,240.28
TRS	28.37	69.02	40.65
VOC	156.35	438.40	282.05
H_2SO_4 Mist	7.05	8.67	1.62

- Baseline emissions based on the 2002/2001 baseline period. Future Potential to Emit is based on a combination of RBLC values and existing permit limits.

TABLE B-2 (Revised September 2004)
IP PENSACOLA MILL
PRELIMINARY EMISSIONS INVENTORY
PSD APPLICABILITY ANALYSIS

NO. 1 RECOVERY FURNACE

POLLUTANT		BASELINE EMISSIONS[a] 2002/2001 Average (tons/yr)	PTE EMISSION: Emission Factor[b]	Units	Source	Production[c]	Units	Emissions (tons/yr)	PROJECT-RELATED EMISSIONS INCREASE (tons/yr)
CO		453.84	500	ppmdv @ 8% O_2	BACT - RBLC	163,032	dscfm @ 8% O2	1556.58	1102.74
NO_X		342.43	110	ppmdv @ 8% O_2	BACT - RBLC	163,032	dscfm @ 8% O2	562.59	220.16
PM		97.50	0.021	gr/dscf @ 8% O_2	BACT - RBLC	163,032	dscfm @ 8% O2	128.53	31.03
PM_{10}		97.50	0.021	gr/dscf @ 8% O_2	BACT - RBLC	163,032	dscfm @ 8% O2	128.53	31.03
SO_2		66.16	151	lb/hr	BACT - Permit Limit	8,760	hrs/yr	661.38	595.22
TRS		6.25	5	ppmdv @ 8% O_2	BACT - RBLC	163,032	dscfm @ 8% O2	18.90	12.66
VOC		52.34	50	ppmdv @ 8% O_2	BACT - RBLC	163,032	dscfm @ 8% O2	88.95	36.61
H_2SO_4 Mist	(d)	3.52	0.016	lb/Ton BLS	NCASI TB 701, Mill A	61.88	Ton BLS/hr	4.34	0.82
Lead	(d)	7.7E-03	35	lb/10^6 Ton BLS	NCASI TB 701, Unit RFID1	61.88	Ton BLS/hr	9.5E-03	0.0018
Mercury	(d)	2.6E-02	120	lb/10^6 Ton BLS	NCASI TB 701, Unit RB11	61.88	Ton BLS/hr	3.3E-02	0.0061

[a] Baseline emissions were developed from the Annual Emission Inventories submitted by the mill.
[b] Existing Permit Limits for PM (3 lb/1000 lb BLS, 111 lb/hr) and TRS (5 ppm @ 8% O2) are less stringent then the values from the RACT/BACT/LAER Clearinghouse (RBLC).RBLC values. All emission factors were developed from the RBLC.
[c] Volumetric flow rate data and production data are mill values that have been corrected to the future scenario values.
[d] Pollutant not reported in EAOR. Value developed using the PTE emission factor and actual 2002/2001 production data.

Key Information:

Baseline Scenario

Emission Characteristics:	134,103	dscfm	2002 PM test results
	6.833	% O_2	
	0.009	gr/dscf - 2002 PM Testing	
	146,235	dscfm @ 8% O_2	
Production Characteristics:	439,950	tons BLS/yr	2002/2001 Average
	655	MMBtu/hr	Rated Heat Input on BLS
	572	MMBtu/hr	Rated Heat Input on Natural gas/Oil
	111,000	lb BLS/hr	Permitted BLS capacity

Future Scenario

Emission Characteristics:	163,032	dscfm @ 8% O_2	Baseline Volumetric Flowrate corrected to new production rate (146,235 x (123,750/111,000))
	93	ppmdv @ 8% O2 (back calculated from permit limit and future volumetric flow rate)	
Production Characteristics:	123,750	lb BLS/hr	Future BLS capacity based on 1650 ADBT/day and 3600 lb BLS/ADBT
	730	MMBtu/hr	Rated Heat Input on BLS corrected to new production rate (655 x (123,750/111,000))
	638	MMBtu/hr	Rated Heat Input on Natural gas/Oil corrected to new production rate (572 x (123,750/111,000))

TABLE B-3 (Revised September 2004)
IP PENSACOLA MILL
PRELIMINARY EMISSIONS INVENTORY
PSD APPLICABILITY ANALYSIS

NO. 2 RECOVERY FURNACE

POLLUTANT		BASELINE EMISSIONS[a] 2002/2001 Average (tons/yr)	PTE EMISSION Emission Factor[b]	Units	Source	Production[c]	Units	Emissions (tons/yr)	PROJECT-RELATED EMISSIONS INCREASE (tons/yr)
CO		300.78	500	ppmdv @ 8% O_2	BACT - RBLC	176,895	dscfm @ 8% O2	1688.93	1388.15
NO_X		287.71	110	ppmdv @ 8% O_2	BACT - RBLC	176,895	dscfm @ 8% O2	610.43	322.72
PM		144.75	0.021	gr/dscf @ 8% O_2	BACT - RBLC	176,895	dscfm @ 8% O2	139.46	-5.29
PM_{10}		144.75	0.021	gr/dscf @ 8% O_2	BACT - RBLC	176,895	dscfm @ 8% O2	139.46	-5.29
SO_2		44.44	151	lb/hr	BACT - Permit Limit	8,760	hrs/yr	661.38	616.95
TRS		4.31	5	ppmdv @ 8% O_2	BACT - RBLC	176,895	dscfm @ 8% O2	20.51	16.20
VOC		52.11	50	ppmdv @ 8% O_2	BACT - RBLC	176,895	dscfm @ 8% O2	96.51	44.40
H_2SO_4 Mist	(d)	3.53	0.016	lb/Ton BLS	NCASI TB 701, Mill A	61.88	Ton BLS/hr	4.34	0.81
Lead	(d)	7.7E-03	35	lb/10^6 Ton BLS	NCASI TB 701, Unit RFID1	61.88	Ton BLS/hr	9.5E-03	0.0018
Mercury	(d)	2.6E-02	120	lb/10^6 Ton BLS	NCASI TB 701, Unit RB11	61.88	Ton BLS/hr	3.3E-02	0.0060

[a] Baseline emissions were developed from the Annual Emission Inventories submitted by the mill.
[b] Existing Permit Limits for PM (3 lb/1000 lb BLS, 111 lb/hr) and TRS (5 ppm @ 8% O2) are less stringent then the values from the RACT/BACT/LAER Clearinghouse (RBLC).RBLC values. All emission factors were developed from the RBLC.
[c] Volumetric flow rate data and production data are mill values that have been corrected to the future scenario values.
[d] Pollutant not reported in EAOR. Value developed using the PTE emission factor and actual 2002/2001 production data.

Key Information:

Baseline Scenario

Emission Characteristics:	131,460	dscfm	2002 PM test results
	5.33	% O_2	
	0.023	gr/dscf - 2002 PM Testing	
	158,669	dscfm @ 8% O_2	
Production Characteristics:	441,271	tons BLS/yr	2002/2001 Average
	655	MMBtu/hr	Rated Heat Input on BLS
	572	MMBtu/hr	Rated Heat Input on Natural gas/Oil
	111,000	lb BLS/hr	Permitted BLS capacity

Future Scenario

Emission Characteristics:	176,895	dscfm @ 8% O_2	Baseline Volumetric Flowrate corrected to new production rate (158,669 x (123,750/111,000))
	86	ppmdv @ 8% O2 (back calculated from permit limit and future volumetric flow rate)	
Production Characteristics:	123,750	lb BLS/hr	Future BLS capacity based on 1650 ADBT/day and 3600 lb BLS/ADBT
	730	MMBtu/hr	Rated Heat Input on BLS corrected to new production rate (655 x (123,750/111,000))
	638	MMBtu/hr	Rated Heat Input on Natural gas/Oil corrected to new production rate (572 x (123,750/111,000))

TABLE B-4 (Revised September 2004)
IP PENSACOLA MILL
PRELIMINARY EMISSIONS INVENTORY
PSD APPLICABILITY ANALYSIS

NO. 1 SMELT DISSOLVING TANK

POLLUTANT	BASELINE EMISSIONS[a] 2002/2001 Average (tons/yr)	PTE EMISSION Emission Factor[b]	Units	Source	Production[c]	Units	Emissions (tons/yr)	PROJECT-RELATED EMISSIONS INCREASE (tons/yr)
CO	0.00						0.00	0.00
NO_X	0.00						0.00	0.00
PM	22.32	26.4	lb/hr	Permit Limit	8,760	hours/yr	115.63	93.31
PM_{10}	22.32	26.4	lb/hr	Permit Limit	8,760	hours/yr	115.63	93.31
SO_2	1.33	0.006	lb/ton BLS	Stack Testing	61.88	ton BLS/hr	1.63	0.30
TRS	6.92	0.048	lb/3000 lb BLS	Permit Limit	123,750	lb BLS/hr	8.67	1.75
VOC	14.57	3.46	lb/hr	Stack Testing	8,760	hours/yr	15.15	0.59
H_2SO_4 Mist	NA						0.00	#VALUE!

[a] Baseline emissions were developed from the Annual Emission Inventories submitted by the mill.
[b] Existing Permit Limits for PM (26.4 lb/hr) and TRS (0.048 lb/3000 lb BLS). All other emission factors were developed from the historical mill data.
[c] Production values that have been corrected to the future scenario values.

Key Information:

Baseline Scenario

Emission Characteristics:	9,346	dscfm	2002 PM test results
	20.9	% O_2	
	0.155	lb/3000 lb BLS	
Production Characteristics:	439,950	tons BLS/yr	2002/2001 Average
	42,319	lb smelt/hr	Permitted smelt capacity
	111,000	lb BLS/hr	Permitted BLS capacity

Future Scenario

Emission Characteristics:	10,420	dscfm	Baseline Volumetric Flowrate corrected to new production rate (9,346 x (123,750/111,000))
Production Characteristics:	123,750	lb BLS/hr	Future BLS capacity based on 1650 ADBT/day and 3600 lb BLS/ADBT
	47,180	lb smelt/hr	Future smelt capacity corrected to new production rate (42,319 x (123,750/111,000))

TABLE B-5 (Revised September 2004)
IP PENSACOLA MILL
PRELIMINARY EMISSIONS INVENTORY
PSD APPLICABILITY ANALYSIS

NO. 2 SMELT DISSOLVING TANK

POLLUTANT	BASELINE EMISSIONS[a] 2002/2001 Average (tons/yr)	PTE EMISSION Emission Factor[b]	Units	Source	Production[c]	Units	Emissions (tons/yr)	PROJECT-RELATED EMISSIONS INCREASE (tons/yr)
CO	0.00						0.00	0.00
NO_X	0.00						0.00	0.00
PM	21.95	26.4	lb/hr	Permit Limit	8,760	hours/yr	115.63	93.69
PM_{10}	21.95	26.4	lb/hr	Permit Limit	8,760	hours/yr	115.63	93.69
SO_2	1.31	0.006	lb/ton BLS	Stack Testing	61.88	ton BLS/hr	1.63	0.32
TRS	4.75	0.048	lb/3000 lb BLS	Permit Limit	123,750	lb BLS/hr	8.67	3.92
VOC	14.60	3.46	lb/hr	Stack Testing	8,760	hours/yr	15.15	0.55
H_2SO_4 Mist	NA						0.00	#VALUE!

[a] Baseline emissions were developed from the Annual Emission Inventories submitted by the mill.
[b] Existing Permit Limits for PM (26.4 lb/hr) and TRS (0.048 lb/3000 lb BLS). All other emission factors were developed from the historical mill data.
[c] Production values that have been corrected to the future scenario values.

Key Information:

Baseline Scenario

Emission Characteristics:	9,670	dscfm	2002 PM test results
	20.9	% O_2	
	0.205	lb/3000 lb BLS	
Production Characteristics:	441,271	tons BLS/yr	2002/2001 Average
	42,319	lb smelt/hr	Permitted smelt capacity
	111,000	lb BLS/hr	Permitted BLS capacity

Future Scenario

Emission Characteristics:	10,781	dscfm	Baseline Volumetric Flowrate corrected to new production rate (9,670 x (123,750/111,000))
Production Characteristics:	123,750	lb BLS/hr	Future BLS capacity based on 1650 ADBT/day and 3600 lb BLS/ADBT
	47,180	lb smelt/hr	Future smelt capacity corrected to new production rate (42,319 x (123,750/111,000))

TABLE B-7 (Revised September 2004)
IP PENSACOLA MILL
PRELIMINARY EMISSIONS INVENTORY
PSD APPLICABILITY ANALYSIS

LIME SLAKER

POLLUTANT		BASELINE EMISSIONS[a] 2002/2001 Average (tons/yr)	PTE EMISSION Emission Factor[b]	Units	Source	Production[c]	Units	Emissions (tons/yr)	PROJECT-RELATED EMISSIONS INCREASE (tons/yr)
CO		0.00						0.00	0.00
NO_X		0.00						0.00	0.00
PM		3.86	1.59	lb/hr	BACT - Permit Limit	8760	hours/yr	6.96	3.10
PM_{10}		3.86	1.59	lb/hr	BACT - Permit Limit	8760	hours/yr	6.96	3.10
SO_2		0.00						0.00	0.00
TRS	(d)	3.42	0.054	lb/ton CaO	BACT - NCASI TB 849 (average of 4 slaker vents) plus 20% safety factor	24.06	tons CaO/hr	5.69	2.27
VOC	(d)	3.12	0.049	lb/ton CaO	BACT - NCASI TB 676 plus 20% safety factor	24.06	tons CaO/hr	5.20	2.08
H_2SO_4 Mist								0.00	0.00

[a] Baseline emissions were developed from the Annual Emission Inventories submitted by the mill.
[b] Existing Permit Limits for PM (1.59 lb/hr). All other emission factors were developed from the historical mill data.
[c] Production values that have been corrected to the future scenario values.
[d] Pollutant not reported in EAOR. Value developed using a NCASI emission factor (as presented below) and actual 1998/1999 production data. PTE values developed represent a BACT determination. IP has included a 20% safety factor due to the limited data available and the fact that the value will be a permit limit.

Key Information:

Baseline Scenario

Emission Characteristics: NA

TRS	0.045	lb/ton CaO	NCASI TB 849
VOC	0.0411	lb/ton CaO	NCASI TB 676

Production Characteristics: 151,949 tons CaO/yr — 2002/2001 Average

Future Scenario

Emission Characteristics: 1.59 lb PM/hr — Permit Limit

Production Characteristics: 24.06 tons CaO/hr — Future lime production based on 1650 ADBT/day and 700 lb CaO/ADBT

TABLE B-6 (Revised September 2004)
IP PENSACOLA MILL
PRELIMINARY EMISSIONS INVENTORY
PSD APPLICABILITY ANALYSIS

LIME KILN/MUD DRYER

POLLUTANT		BASELINE EMISSIONS[a] 2002/2001 Average (tons/yr)	PTE EMISSION Emission Factor[b]	Units	Source	Production[c]	Units	Emissions (tons/yr)	PROJECT-RELATED EMISSIONS INCREASE (tons/yr)
CO		22.48	45	ppm @ 10% O2	BACT - Permit limit is more stringent than RBLC database	64,674	dscfm @ 10% O_2	55.57	33.09
NO_X		117.84	200	ppm @ 10% O_2	BACT - Permit limit is more stringent than RBLC database - 200 ppm conc.	64,674	dscfm @ 10% O_2	405.78	287.94
PM		27.82	0.033	gr/dscf @ 10% O_2	BACT - RBLC	64,674	dscfm @ 10% O_2	80.13	52.31
PM_{10}		27.82	0.033	gr/dscf @ 10% O_2	BACT - RBLC	64,674	dscfm @ 10% O_2	80.13	52.31
SO_2		0.93	6.49	lb/hr	BACT - Permit limit is more stringent than RBLC database, based on 130 lb/hr and 95% control efficiency	8,760	hr/yr	28.4	27.50
TRS		1.64	8	ppm @ 10% O2	BACT - Permit limit is more stringent than RBLC database	64,674	dscfm @ 10% O_2	5.65	4.01
VOC		1.43	104	ppm @ 10% O2	BACT - Permit limit is more stringent than RBLC database	64,674	dscfm @ 10% O_2	201.83	200.40
H_2SO_4 Mist		NA	NA	NA					
Lead	(d)	1.2E-02	160	lb/10^6 Ton CaO	NCASI TB 701, Unit LB2	24.06	Ton CaO/hr	1.7E-02	0.0047
Mercury	(d)	9.1E-03	120	lb/10^6 Ton CaO	NCASI TB 701, Unit LB2	24.06	Ton CaO/hr	1.3E-02	0.0035

[a] Baseline emissions were developed from the Annual Emission Inventories submitted by the mill (developed from 2002 testing).
[b] Existing Permit Limits for PM (10.9 lb/hr, 47.7 tpy), TRS (8 ppm @ 10% O2, 1.46 lb/hr), NOx (175 ppm or 200 ppm @ 10% O2), CO (45 ppm @ 10% O2, 6.75 lb/hr, 29.6 tpy), VOC (104 ppm @ 10% O2, 24.5 lb/hr, 107.3 tpy), and SO2 (6.49 lb/hr, 28.4 tpy). All other emission factors were developed from the RACT/BACT/LAER Clearinghouse (RBLC).
[c] Volumetric flow rate data and production data are mill values that have been corrected to the future scenario values.
[d] Pollutant not reported in EAOR. Value developed using the PTE emission factor and actual 2002/2001 production data.

Key Information:

Baseline Scenario

Emission Characteristics:

	Natural Gas					*Oil*			
		38,869 dscfm		2002 Stack Test		40,930 dscfm		2002 Stack Test	
		5.2 % O_2				6.4 % O_2			
PM	0.109 lb/ton CaO			2002 Stack Test	PM	0.169 lb/ton CaO		2002 Stack Test	
PM			10.9 lb/hr	Permit Limit	PM		10.9 lb/hr	Permit Limit	
SO2	6.7 ppm		2.6 lb/hr	Permit Limit	SO2	1.0 ppm	0.4 lb/hr	Permit Limit	
NOX	44.87 ppm @ 10% O2		18.1 lb/hr	Permit Limit	NOX	31.08 ppm @ 10% O2	12 lb/hr	Permit Limit	
CO	10.31 ppm @ 10% O2		2.5 lb/hr	Permit Limit	CO	7.19 ppm @ 10% O2	1.7 lb/hr	Permit Limit	
VOC	3.1 ppm @ 10% O2		1.2 lb/hr	Permit Limit	VOC	0.4 ppm @ 10% O2	0.1 lb/hr	Permit Limit	

Production Characteristics:

20.83	tons CaO/hr	Permitted CaO capacity
150	MMBtu/hr	Burner Heat Input based on 1992 PSD Permit Application
151,949	tons CaO/hr	2002/2001 Average

Future Scenario

Emission Characteristics:

Natural Gas
64,674 dscfm @ 10% O_2 Baseline Volumetric Flowrate corrected to new production rate

Oil
62,898 dscfm @ 10% O_2 Baseline Volumetric Flowrate corrected to new production rate

Production Characteristics:

24.06	tons CaO/hr	Future lime production based on 1650 ADBT/day and 700 lb CaO/ADBT
150	MMBtu/hr	Burner Heat Input based on vendor correspondance

TABLE B-8 (Revised September 2004)
IP PENSACOLA MILL
PRELIMINARY EMISSIONS INVENTORY
PSD APPLICABILITY ANALYSIS

NEW POST O2 PRESS

POLLUTANT	BASELINE EMISSIONS[a] 2002/2001 Average (tons/yr)	PTE EMISSION Emission Factor[b]	Units	Source	Production[c]	Units	Emissions (tons/yr)	PROJECT-RELATED EMISSIONS INCREASE (tons/yr)
CO	0.00						0.00	0.00
NO_X	0.00						0.00	0.00
PM	0.00						0.00	0.00
PM_{10}	0.00						0.00	0.00
SO_2	0.00						0.00	0.00
TRS	0.00	0.0054	lb/ADTP	BACT - NCASI TB 849, Mill N plus 20% safety factor	940.00	ADTBP/day	0.93	0.93
VOC	0.00	0.0910	lb/ADTP	BACT - NCASI TB 675, Mill N plus a 20% safety factor	940.00	ADTBP/day	15.60	15.60
H_2SO_4 Mist							0.00	0.00

[a] Baseline emissions were developed from the Annual Emission Inventories submitted by the mill.
[b] Emission factors were developed from NCASI MACT Study testing.
[c] Production values that have been corrected to the future scenario values.

Key Information:

Baseline Scenario

Emission Characteristics: NA

Production Characteristics: 0 ADTBP/day

Future Scenario

Emission Characteristics:

Production Characteristics: 940.00 ADTBP/day Future softwood production based on capacity of unit

TABLE B-9 (Revised September 2004)
IP PENSACOLA MILL
PRELIMINARY EMISSIONS INVENTORY
PSD APPLICABILITY ANALYSIS

EXISTING POST O2 PRESS (CONTEMPORANEOUS PERIOD DECREASE)

POLLUTANT	BASELINE EMISSIONS[a] 2002/2001 Average (tons/yr)	PTE EMISSION Emission Factor[b]	Units	Source	Production[c]	Units	Emissions (tons/yr)	PROJECT-RELATED EMISSIONS INCREASE (tons/yr)
CO	0.00						0.00	0.00
NO_X	0.00						0.00	0.00
PM	0.00						0.00	0.00
PM_{10}	0.00						0.00	0.00
SO_2	0.00						0.00	0.00
TRS	1.09	0.0045	lb/ADTP	NCASI TB 849, Mill N	0.00	ADTP/yr	0.00	-1.09
VOC	18.19	0.075	lb/ADTP	NCASI TB 675, Mill N	0.00	ADTP/yr	0.00	-18.19
H_2SO_4 Mist							0.00	0.00

[a] Baseline emissions were developed using the PTE emission factor and actual 1998/1999 production data
[b] Emission factors were developed from NCASI MACT Study testing.
[c] Production values that have been corrected to the future scenario values.
[d] Pollutant not reported in EAOR. Value developed using the PTE emission factor and actual 1998/1999 production data.

Key Information:

Baseline Scenario

Emission Characteristics: NA

Production Characteristics: 485,046 ADTBP/yr 2002/2001 Average

Future Scenario

Emission Characteristics:

Production Characteristics: 800.00 ADTBP/day Current softwood production based on capacity of unit

TABLE B-10 (Revised September 2004)
AFFECTED UNITS PROJECT EMISSIONS INVENTORY

INTERNATIONAL PAPER COMPANY - PENSACOLA MILL

Emission Unit ID	Emission Unit Description		Emission Unit Category	Pollutant	2002 Actual (TPY)	2001 Actual (TPY)	2000 Actual (TPY)	1999 Actual (TPY)	1998 Actual (TPY)	2002/2001 Average Baseline (TPY)	2000/2001 Average Baseline (TPY)	1998/1999 Average Baseline (TPY)	Potential to Emit - Post Project (lb/hr)	Potential to Emit - Post Project (TPY)	Incremental Change Associated with the Project (lb/hr)	Incremental Change Associated with the Project[(a)] (TPY)	
1	TALL OIL PLANT		Affected	TRS	0.00	0.14	0.34	0.27	0.20	0.07	0.24	0.23	0.02	0.09	0.00	0.02	Tall Oil
	TALL OIL PLANT			VOC	0.00	155.48	389.57	303.01	227.30	77.74	272.53	265.15	22.04	96.53	4.29	18.79	Tall Oil
4	METHANOL STORAGE TANK 21888 GALLONS	2002/2001 AVG	Affected	VOC	2.20	2.20				2.20	2.20	#DIV/0!	0.62	2.73	0.12	0.53	Pulp
44	P5 PAPER MACHINE, STARCH SILOS 1 & 2, CLAY SILO, DUST COLLECTION		Affected	PM	0.71	0.72	1.51	0.06	0.05	0.71	1.11	0.78	0.20	0.89	0.04	0.17	Pulp
	P5 PAPER MACHINE, STARCH SILOS 1 & 2, CLAY SILO, DUST COLLECTION			PM10	0.71	0.72	1.51	0.06	0.05	0.71	1.11	0.78	0.20	0.89	0.04	0.17	Pulp
45	P-5 PAPER MACHINE MAKE-DOWN AREA VENT		Affected	PM				0.57	0.47			0.57					Pulp
	P-5 PAPER MACHINE MAKE-DOWN AREA VENT			PM10	0.44			0.57	0.47	0.44		0.57	0.12	0.55	0.02	0.11	Pulp
52	WOODYARD ACTIVITY		Affected	PM											2.90	12.70	Chips
	WOODYARD ACTIVITY			PM10											2.90	12.70	Chips
58	PINE CHIP THICKNESS SCREENING SYSTEM & NEW PINE LONG LOG CHIP		Affected	PM				1.79	1.70			1.79	0.00				Chips
	PINE CHIP THICKNESS SCREENING SYSTEM & NEW PINE LONG LOG CHIP			PM10	0.562			0.63	0.60	0.56		0.63	0.16	0.70	0.03	0.14	Chips

(a) - The Incremental Change Associated with the Project for the Affected Units was calculated using the 2002/2001 Baseline period and adding in the incremental change in emissions associated with the project using the following relationship: a future production rate of 1,650 ADTBP/day and the following mill-specific conversions: 1 ADTBP=700 lb CaO=3,600 lb BLS

Note: The Tall Oil Plant is not currently operating, therefore no emissions are expected from this emissions unit related to the proposed project. The values of 0.02 tpy of TRS and 18.79 tpy of VOC are shown for completeness purposes only.

TABLE B-11 (Revised August 2004)
INTERNATIONAL PAPER - PENSACOLA MILL
SUMMARY OF PHASE I ACTIVITIES
EMISSIONS INVENTORY WITH NEW PHASE II PRODUCTION RATES

		2002/2001 BASELINE EMISSIONS						FUTURE POST PHASE II EMISSIONS					PHASE II ACTIVITIES (PROJECT RELATED) EMISSIONS
E.U. NUMBER	EMISSIONS UNIT	POLLUTANT	EMISSION FACTOR [a]	UNITS	THROUGHPUT [b]	UNITS	EMISSION RATE (TONS/YR) [c]	EMISSION FACTOR	UNITS	THROUGHPUT	UNITS	EMISSION RATE (TONS/YR) [d]	(TONS/YR) [e]
N/A	Causticizing Operations - New Causticizer												
		VOC	0.00139	lb/ton CaO	0	tons CaO/yr	0	0.00139	lb/ton CaO	155,108	tons CaO/yr	0.11	0.11
050, 051	Bleach Plant Operations												
	A Bleach Plant Line (Softwood)	CO	0.63	lb/ODTP	214,676	ODTP/yr	67.62	0.63	lb/ODTP	341,324	ODTP/yr	107.52	39.89
	B Bleach Plant Line (Hardwood)	CO	0.54	lb/ODTP	222,303	ODTP/yr	60.02						
	A Bleach Plant Line (Softwood)	VOC	0.52	lb/hr	7,777	hr/yr	2.02	0.52	lb/hr	8,760	hr/yr	2.28	0.26
	B Bleach Plant Line (Hardwood)	VOC	0.39	lb/hr	7,977	hr/yr	1.56	0.39	lb/hr	8,327	hr/yr	1.62	0.07
063	Kamyr Digester System												
		VOC			42	2002 vent hours/yr	3.19			88	vent hours/yr	1.98	NA
		TRS			42	2002 vent hours/yr	8.55			88	vent hours/yr	7.34	NA

(a) - The origination of the emission factors is explained in the Section 2 narrative.
(b) - Bleach Plant ODTP/yr throughput numbers are based on 2002/2001 baseline ADTP/yr values using a conversion of 1.11 ADTP/ODTP (NCASI TB 676). Bleach Plant hours of operation are based on 2002 actual hours of operation.
(c) - Baseline emission rates are 0 tons/yr for the New Causticizer (not in operation) and baseline emission rates for the Kamyr Digester system are based on actual direct to atmosphere venting time (see 2002 and 2001 AOR) as the gases were normally routed to the Lime Kiln during the 2002/2001 time period. The vent time was combined with the uncontrolled emission factors of 5 lb/ADTUP for TRS and 1.35 lb/ADTUP for VOC to calculate emissions.
(d) - Future Post Phase I emission rates are based on the NCASI emission factor and the average 2002/2001 production rates for the New Causticizer. Emission rates for the Kamyr Digester System are based on the 40 CFR 60, Subpart S 1% allowable venting time (87.6 hours), the mill uncontrolled VOC and TRS emission factors from note (c) above, and the total 2002/2001 unbleached pulp production from the Kamyr Digester System.

(Emission Factor [lb/ADTUP])(257,353 [ADTUP/yr])((87.6 [vent hours])/(8760 [operating hours]))/(2000 [lb/ton])

(e) - Project Related emissions are based on the difference of the Future Post Phase I emission rates and the 2002/2001 baseline emission rates.

TABLE B-12 (R[illegible]d September 2004)
PROJECT EMISSIONS INVENTORY
AFFECTED UNITS - UNREGULATED EMISSION SOURCES
INTERNATIONAL PAPER COMPANY - PENSACOLA MILL

MILL AREA/POLLUTANT	MILL AREA	SOURCE_ID	POLL_DESC	EF	EFUN	ACT 2002/2001 THRU	ACT 2002/2001 LB/YR	ACT 2002/2001 T/YR	INCRE. INCREASE FACTOR	PROJECT RELATED INCRE. INCREASE T/YR
#1 BSWVOC	#1 BSW	03-PU-001	VOC	0.15	LB/ODTP	118015	17702	8.85	1.24	2.14
#1 BSWVOC	#1 BSW	03-TK-011	VOC	0.13	LB/ODTP	118015	15342	7.67	1.24	1.86
#1 BSWVOC Total										4.00
#2 BSWVOC	#2 BSW	03-PU-003	VOC	0.15	LB/ODTP	118015	17702	8.85	1.24	2.14
#2 BSWVOC	#2 BSW	03-TK-012	VOC	0.13	LB/ODTP	118015	15342	7.67	1.24	1.86
#2 BSWVOC Total										4.00
A-LINE O2 DELIGNIFICATIONTRS	A-LINE O2 DELIGNIFICATION	04-PU-003	TRS	0.0679	LB/ODTP	214461	14562	7.28	1.24	1.76
A-LINE O2 DELIGNIFICATIONTRS	A-LINE O2 DELIGNIFICATION	04-PU-005	TRS	0.0679	LB/ODTP	214461	14562	7.28	1.24	1.76
A-LINE O2 DELIGNIFICATIONTRS	A-LINE O2 DELIGNIFICATION	04-PU-008	TRS	0.0356	LB/ODTP	214461	7635	3.82	1.24	0.92
A-LINE O2 DELIGNIFICATIONTRS	A-LINE O2 DELIGNIFICATION	04-PU-021	TRS	0.0679	LB/ODTP	222080	15079	7.54	1.24	1.82
A-LINE O2 DELIGNIFICATIONTRS	A-LINE O2 DELIGNIFICATION	04-TK-002	TRS	0.0002	LB/ODTP	214461	48	0.02	1.24	0.01
A-LINE O2 DELIGNIFICATIONTRS	A-LINE O2 DELIGNIFICATION	04-TK-004	TRS	0.0002	LB/ODTP	214461	48	0.02	1.24	0.01
A-LINE O2 DELIGNIFICATIONTRS	A-LINE O2 DELIGNIFICATION	04-TK-006	TRS	0.0002	LB/ODTP	214461	48	0.02	1.24	0.01
A-LINE O2 DELIGNIFICATIONTRS	A-LINE O2 DELIGNIFICATION	04-TK-007	TRS	0.0002	LB/ODTP	214461	48	0.02	1.24	0.01
A-LINE O2 DELIGNIFICATIONTRS	A-LINE O2 DELIGNIFICATION	04-TK-009	TRS	0.0002	LB/ODTP	214461	48	0.02	1.24	0.01
A-LINE O2 DELIGNIFICATIONTRS Total										6.30
A-LINE O2 DELIGNIFICATIONVOC	A-LINE O2 DELIGNIFICATION	04-PU-003	VOC	0.0469	LB/ODTP	214461	10058	5.03	1.24	1.22
A-LINE O2 DELIGNIFICATIONVOC	A-LINE O2 DELIGNIFICATION	04-PU-005	VOC	0.0469	LB/ODTP	214461	10058	5.03	1.24	1.22
A-LINE O2 DELIGNIFICATIONVOC	A-LINE O2 DELIGNIFICATION	04-PU-008	VOC	0.1500	LB/ODTP	214461	32169	16.08	1.24	3.89
A-LINE O2 DELIGNIFICATIONVOC	A-LINE O2 DELIGNIFICATION	04-PU-012	VOC	0.8845	LB/ODTP	214461	189687	94.84	1.24	22.95
A-LINE O2 DELIGNIFICATIONVOC	A-LINE O2 DELIGNIFICATION	04-PU-021	VOC	0.0469	LB/ODTP	222080	10416	5.21	1.24	1.26
A-LINE O2 DELIGNIFICATIONVOC	A-LINE O2 DELIGNIFICATION	04-TK-002	VOC	0.0065	LB/ODTP	214461	1392	0.70	1.24	0.17
A-LINE O2 DELIGNIFICATIONVOC	A-LINE O2 DELIGNIFICATION	04-TK-004	VOC	0.0065	LB/ODTP	214461	1392	0.70	1.24	0.17
A-LINE O2 DELIGNIFICATIONVOC	A-LINE O2 DELIGNIFICATION	04-TK-006	VOC	0.0065	LB/ODTP	214461	1392	0.70	1.24	0.17
A-LINE O2 DELIGNIFICATIONVOC	A-LINE O2 DELIGNIFICATION	04-TK-007	VOC	0.0065	LB/ODTP	214461	1392	0.70	1.24	0.17
A-LINE O2 DELIGNIFICATIONVOC	A-LINE O2 DELIGNIFICATION	04-TK-009	VOC	0.0065	LB/ODTP	214461	1392	0.70	1.24	0.17
A-LINE O2 DELIGNIFICATIONVOC Total										31.38
B BLEACH PLANT OTHER SOURCESVOC	B BLEACH PLANT OTHER SOURCES	05-PU-017	VOC	0.016	LB/HR	8760	143	0.07	1.24	0.02
B BLEACH PLANT OTHER SOURCESVOC	B BLEACH PLANT OTHER SOURCES	05-TK-015	VOC	0.107	LB/HR	8760	937	0.47	1.24	0.11
B BLEACH PLANT OTHER SOURCESVOC	B BLEACH PLANT OTHER SOURCES	05-TK-019	VOC	3.980	LB/HR	8760	34865	17.43	1.24	4.22
B BLEACH PLANT OTHER SOURCESVOC Total										4.35
Batch DigestersTRS	Batch Digesters	Batch Digesters	TRS	0.03	LB/T CHIP	916163	27485	13.74	1.24	3.33
Batch DigestersTRS Total										3.33
Batch DigestersVOC	Batch Digesters	Batch Digesters	VOC	0.02	LB/T CHIP	916163	18323	9.16	1.24	2.22
Batch DigestersVOC Total										2.22
B-LINE O2 DELIGNIFICATIONVOC	B-LINE O2 DELIGNIFICATION	04-PU-025	VOC	4.180	LB/HR	8760	36617	18.31	1.24	4.43
B-LINE O2 DELIGNIFICATIONVOC	B-LINE O2 DELIGNIFICATION	04-PU-029	VOC	0.924	LB/ODTP	222080	205202	102.60	1.24	24.83
B-LINE O2 DELIGNIFICATIONVOC	B-LINE O2 DELIGNIFICATION	04-TK-020	VOC	0.0065	LB/ODTP	222080	1441	0.72	1.24	0.17
B-LINE O2 DELIGNIFICATIONVOC	B-LINE O2 DELIGNIFICATION	04-TK-022	VOC	0.0065	LB/ODTP	222080	1441	0.72	1.24	0.17
B-LINE O2 DELIGNIFICATIONVOC	B-LINE O2 DELIGNIFICATION	04-TK-024	VOC	0.0065	LB/ODTP	222080	1441	0.72	1.24	0.17
B-LINE O2 DELIGNIFICATIONVOC	B-LINE O2 DELIGNIFICATION	04-TK-026	VOC	0.0065	LB/ODTP	222080	1441	0.72	1.24	0.17
B-LINE O2 DELIGNIFICATIONVOC Total										29.96
CAUSTICIZING AREAVOC	CAUSTICIZING AREA	10-AS-045	VOC	0.00247	LB/T BLS	881221	2177	1.09	1.24	0.26
CAUSTICIZING AREAVOC	CAUSTICIZING AREA	10-PU-018	VOC	0.00139	LB/T CAO	151949	211	0.11	1.24	0.03
CAUSTICIZING AREAVOC	CAUSTICIZING AREA	10-PU-019	VOC	0.00139	LB/T CAO	151949	211	0.11	1.24	0.03
CAUSTICIZING AREAVOC	CAUSTICIZING AREA	10-PU-020	VOC	0.00139	LB/T CAO	151949	211	0.11	1.24	0.03
CAUSTICIZING AREAVOC	CAUSTICIZING AREA	10-PU-021	VOC	0.00139	LB/T CAO	151949	211	0.11	1.24	0.03
CAUSTICIZING AREAVOC	CAUSTICIZING AREA	10-PU-022	VOC	0.00139	LB/T CAO	151949	211	0.11	1.24	0.03
CAUSTICIZING AREAVOC	CAUSTICIZING AREA	10-PU-065	VOC	0.16800	LB/T CAO	151949	25527	12.76	1.24	3.09
CAUSTICIZING AREAVOC	CAUSTICIZING AREA	10-TK-001	VOC	0.00247	LB/T BLS	440611	1088	0.54	1.24	0.13
CAUSTICIZING AREAVOC	CAUSTICIZING AREA	10-TK-002	VOC	0.00247	LB/T BLS	440611	1088	0.54	1.24	0.13
CAUSTICIZING AREAVOC	CAUSTICIZING AREA	10-TK-003	VOC	0.00247	LB/T BLS	440611	1088	0.54	1.24	0.13
CAUSTICIZING AREAVOC	CAUSTICIZING AREA	10-TK-005	VOC	0.00247	LB/T BLS	440611	1088	0.54	1.24	0.13
CAUSTICIZING AREAVOC	CAUSTICIZING AREA	10-TK-007	VOC	0.00247	LB/T BLS	440611	1088	0.54	1.24	0.13
CAUSTICIZING AREAVOC	CAUSTICIZING AREA	10-TK-008	VOC	0.00247	LB/T BLS	440611	1088	0.54	1.24	0.13
CAUSTICIZING AREAVOC	CAUSTICIZING AREA	10-TK-009	VOC	0.00247	LB/T BLS	440611	1088	0.54	1.24	0.13
CAUSTICIZING AREAVOC	CAUSTICIZING AREA	10-TK-023	VOC	0.03080	LB/TCAO	75975	2340	1.17	1.24	0.28
CAUSTICIZING AREAVOC	CAUSTICIZING AREA	10-TK-024	VOC	0.03080	LB/HR	75975	2340	1.17	1.24	0.28
CAUSTICIZING AREAVOC	CAUSTICIZING AREA	10-TK-026	VOC	0.00136	LB/T CAO	75975	103	0.05	1.24	0.01
CAUSTICIZING AREAVOC	CAUSTICIZING AREA	10-TK-027	VOC	0.00136	LB/T CAO	75975	103	0.05	1.24	0.01
CAUSTICIZING AREAVOC	CAUSTICIZING AREA	10-TK-029	VOC	0.00136	LB/T CAO	151949	207	0.10	1.24	0.03
CAUSTICIZING AREAVOC	CAUSTICIZING AREA	10-TK-055	VOC	0.00136	LB/T CAO	37987	52	0.03	1.24	0.01
CAUSTICIZING AREAVOC	CAUSTICIZING AREA	10-TK-056	VOC	0.00136	LB/T CAO	37987	52	0.03	1.24	0.01
CAUSTICIZING AREAVOC	CAUSTICIZING AREA	10-TK-057	VOC	0.00136	LB/T CAO	37987	52	0.03	1.24	0.01
CAUSTICIZING AREAVOC	CAUSTICIZING AREA	10-TK-058	VOC	0.00136	LB/T CAO	37987	52	0.03	1.24	0.01
CAUSTICIZING AREAVOC	CAUSTICIZING AREA	10-TK-059	VOC	2.08000	LB/HR	8760	18221	9.11	1.24	2.20
CAUSTICIZING AREAVOC	CAUSTICIZING AREA	10-TK-062	VOC	2.08000	LB/HR	8760	18221	9.11	1.24	2.20

TABLE B-12 (R[illegible]d September 2004)
PROJECT EMISSIONS INVENTORY
AFFECTED UNITS - UNREGULATED EMISSION SOURCES
INTERNATIONAL PAPER COMPANY - PENSACOLA MILL

MILL AREA/POLLUTANT	MILL AREA	SOURCE_ID	POLL_DESC	EF	EFUN	ACT 2002/2001 THRU	ACT 2002/2001 LB/YR	ACT 2002/2001 T/YR	INCRE. INCREASE FACTOR	PROJECT RELATED INCRE. INCREASE T/YR
CAUSTICIZING AREAVOC Total										9.45
CONVERTING BAGHOUSEPM	CONVERTING BAGHOUSE	19-CD-001	PM	0.010	GR/DSCF		3379.00	1.69	1.24	0.41
CONVERTING BAGHOUSEPM Total										0.41
CONVERTING BAGHOUSEPM10	CONVERTING BAGHOUSE	19-CD-001	PM10	0.010	GR/DSCF		3379.00	1.69	1.24	0.41
CONVERTING BAGHOUSEPM10 Total										0.41
DIFFUSION WASHERVOC	DIFFUSION WASHER	03-PU-016	VOC	2.1	LB/ODTP	262872	552031	276.02	1.24	66.80
DIFFUSION WASHERVOC Total										66.80
DIGESTERS AND BSW - OTHER SOURCESTRS	DIGESTERS AND BSW - OTHER SOURCES	02-TK-034	TRS	0.000	LB/ODTP	236030	52	0.03	1.24	0.01
DIGESTERS AND BSW - OTHER SOURCESTRS	DIGESTERS AND BSW - OTHER SOURCES	03-TK-013	TRS	0.037	LB/ODTP	236030	8757	4.38	1.24	1.06
DIGESTERS AND BSW - OTHER SOURCESTRS Total										1.07
DIGESTERS AND BSW - OTHER SOURCESVOC	DIGESTERS AND BSW - OTHER SOURCES	02-TK-018	VOC	0.016	lb/TCaO	151949	2355	1.18	1.24	0.28
DIGESTERS AND BSW - OTHER SOURCESVOC	DIGESTERS AND BSW - OTHER SOURCES	02-TK-019	VOC	0.003	LB/HR	8760	25	0.01	1.24	0.00
DIGESTERS AND BSW - OTHER SOURCESVOC	DIGESTERS AND BSW - OTHER SOURCES	02-TK-033	VOC	0.003	LB/HR	8760	25	0.01	1.24	0.00
DIGESTERS AND BSW - OTHER SOURCESVOC	DIGESTERS AND BSW - OTHER SOURCES	02-TK-034	VOC	0.006	LB/ODTP	236030	1532	0.77	1.24	0.19
DIGESTERS AND BSW - OTHER SOURCESVOC	DIGESTERS AND BSW - OTHER SOURCES	03-TK-015	VOC	0.055	LB/HR	8760	484	0.24	1.24	0.06
DIGESTERS AND BSW - OTHER SOURCESVOC	DIGESTERS AND BSW - OTHER SOURCES	03-TK-013	VOC	0.120	LB/ODTP	236030	28324	14.16	1.24	3.43
DIGESTERS AND BSW - OTHER SOURCESVOC Total										3.96
EVAPS - OTHER SOURCESTRS	EVAPS - OTHER SOURCES	07-TK-001	TRS	0.0371	LB/ODTP	109135	4049	2.02	1.24	0.49
EVAPS - OTHER SOURCESTRS	EVAPS - OTHER SOURCES	07-TK-002	TRS	0.0371	LB/ODTP	109135	4049	2.02	1.24	0.49
EVAPS - OTHER SOURCESTRS	EVAPS - OTHER SOURCES	07-TK-003	TRS	0.0371	LB/ODTP	109135	4049	2.02	1.24	0.49
EVAPS - OTHER SOURCESTRS	EVAPS - OTHER SOURCES	07-TK-004	TRS	0.0371	LB/ODTP	109135	4049	2.02	1.24	0.49
EVAPS - OTHER SOURCESTRS	EVAPS - OTHER SOURCES	07-TK-007	TRS	0.00147	LB/T BLS	293740	432	0.22	1.24	0.05
EVAPS - OTHER SOURCESTRS	EVAPS - OTHER SOURCES	07-TK-008	TRS	0.00147	LB/T BLS	293740	432	0.22	1.24	0.05
EVAPS - OTHER SOURCESTRS	EVAPS - OTHER SOURCES	07-TK-009	TRS	0.00147	LB/T BLS	293740	432	0.22	1.24	0.05
EVAPS - OTHER SOURCESTRS Total										2.12
EVAPS - OTHER SOURCESVOC	EVAPS - OTHER SOURCES	07-TK-001	VOC	0.12	LB/ODTP	151949	18234	9.12	1.24	2.21
EVAPS - OTHER SOURCESVOC	EVAPS - OTHER SOURCES	07-TK-002	VOC	0.12	LB/ODTP	151949	18234	9.12	1.24	2.21
EVAPS - OTHER SOURCESVOC	EVAPS - OTHER SOURCES	07-TK-003	VOC	0.12	LB/ODTP	151949	18234	9.12	1.24	2.21
EVAPS - OTHER SOURCESVOC	EVAPS - OTHER SOURCES	07-TK-004	VOC	0.12	LB/ODTP	151949	18234	9.12	1.24	2.21
EVAPS - OTHER SOURCESVOC	EVAPS - OTHER SOURCES	07-TK-007	VOC	0.00136	LB/T BLS	293740	399	0.20	1.24	0.05
EVAPS - OTHER SOURCESVOC	EVAPS - OTHER SOURCES	07-TK-008	VOC	0.00136	LB/T BLS	293740	399	0.20	1.24	0.05
EVAPS - OTHER SOURCESVOC	EVAPS - OTHER SOURCES	07-TK-009	VOC	0.00136	LB/T BLS	293740	399	0.20	1.24	0.05
EVAPS - OTHER SOURCESVOC	EVAPS - OTHER SOURCES	07-TK-011	VOC	0.16	LB/HR	8760	1402	0.70	1.24	0.17
EVAPS - OTHER SOURCESVOC Total										9.14
KILN - OTHER SOURCESVOC	KILN - OTHER SOURCES	09-AS-032	VOC	0.00136	LB/TCAO	151949	207	0.10	1.24	0.03
KILN - OTHER SOURCESVOC	KILN - OTHER SOURCES	09-AS-042	VOC	0.00136	LB/TCAO	151949	207	0.10	1.24	0.03
KILN - OTHER SOURCESVOC	KILN - OTHER SOURCES	09-PU-069	VOC	0.08010	LB/TCAO	75975	6086	3.04	1.24	0.74
KILN - OTHER SOURCESVOC	KILN - OTHER SOURCES	09-TK-030	VOC	0.00136	LB/T CAO	75975	103	0.05	1.24	0.01
KILN - OTHER SOURCESVOC	KILN - OTHER SOURCES	09-TK-031	VOC	0.00136	LB/T CAO	75975	103	0.05	1.24	0.01
KILN - OTHER SOURCESVOC	KILN - OTHER SOURCES	09-PU-035	VOC	0.0801	LB/T CAO	75975	6086	3.04	1.24	0.74
KILN - OTHER SOURCESVOC	KILN - OTHER SOURCES	09-PU-041	VOC	0.0801	LB/T CAO	75975	6086	3.04	1.24	0.74
KILN - OTHER SOURCESVOC Total										2.28
MISC - FUGITIVES FROM PAVED ROADSPM	MISC - FUGITIVES FROM PAVED ROADS	24-AS-001	PM		LB/HR				1.24	
MISC - FUGITIVES FROM PAVED ROADSPM Total										0.00
MISC - FUGITIVES FROM PAVED ROADSPM10	MISC - FUGITIVES FROM PAVED ROADS	24-AS-001	PM10		LB/HR				1.24	9.34
MISC - FUGITIVES FROM PAVED ROADSPM10 Total										9.34
P3 PAPER MACHINEVOC	P3 PAPER MACHINE	12-PU-999	VOC		LB/ODTP		29362	14.68	1.24	3.55
P3 PAPER MACHINEVOC	P3 PAPER MACHINE	12-TK-011	VOC		LB/ODTP		210	0.11	1.24	0.03
P3 PAPER MACHINEVOC	P3 PAPER MACHINE	12-TK-012	VOC		LB/ODTP		1095	0.55	1.24	0.13
P3 PAPER MACHINEVOC Total										3.71
P5 PAPER MACHINEVOC	P5 PAPER MACHINE	14-PU-999	VOC		LB/ODTP		28925	14.46	1.24	3.50
P5 PAPER MACHINEVOC	P5 PAPER MACHINE	14-TK-016	VOC		n/app		820	0.41	1.24	0.10
P5 PAPER MACHINEVOC	P5 PAPER MACHINE	14-TK-017	VOC		n/app		1154	0.58	1.24	0.14
P5 PAPER MACHINEVOC	P5 PAPER MACHINE	14-TK-018	VOC		n/app		394	0.20	1.24	0.05
P5 PAPER MACHINEVOC	P5 PAPER MACHINE	14-TK-022	VOC		n/app		22	0.01	1.24	0.00
P5 PAPER MACHINEVOC Total										3.79
WASTE WATER TREATMENTVOC	WASTE WATER TREATMENT	16-AS-006	VOC		n/app		835503	417.75	1.24	101.10
WASTE WATER TREATMENTVOC Total										101.10
Grand Total										308.44

TABLE B-13 (Revised September 2004)
HISTORICAL PRODUCTION RATES AND DEVELOPMENT OF MILL PROCESS RELATIONSHIPS

INTERNATIONAL PAPER COMPANY - PENSACOLA MILL

Year	Units	2002	2001	2000	1999	1998	1998/1999 Average	2001/2000 Average	2002/2001 Average	Ratio based on New Mill Potential and 2002/2001 Baseline Average	Ratio based on New Mill Potential and 1998/1999 Baseline Average	
No 1 RF Gas	MCF/yr	103,405	64,578	67,805	60,769	23,491	42,130	66,192	83,992			
No 1 RF BLS	Tons/yr	436,578	443,321	459,446	480,647	463,354	472,001	451,384	439,950	1.232	1.148	
No 2 RF Gas	MCF/yr	70,071	57,447	40,804	38,985	37,346	38,166	49,126	63,759			
No 2 RF BLS	Tons/yr	431,760	450,782	453,084	469,973	469,145	469,559	451,933	441,271	1.228	1.154	
Lime Kiln Gas	MCF/yr	389,731	277,556	363,214	589,820	717,527	653,674	320,385	333,643			
Lime Kiln Oil	BBL/yr	95,145	100,030	94,503	67,078	23,515	45,297	97,267	97,588			
Lime Kiln CaO	Ton CaO/yr	151,196	152,703	141,433	157,710	152,506	155,108	147,068	151,949	1.387	1.359	
Batch ADTBP	ADTBP/yr	243,022	250,490	259,802	270,259	261,824	266,042	255,146	246,756			
Continuous ADTBP	ADTBP/yr	239,255	237,324	246,576	272,199	271,770	271,985	241,950	238,290			
Batch ADTUP	ADTUP/yr	260,034	268,024	277,988	289,177	280,152	284,664	273,006	264,029			
Continuous ADTUP	ADTUP/yr	258,395	256,310	266,302	293,975	293,512	293,743	261,306	257,353			
Total ADTBP	ADTBP/yr	482,277	487,814	506,378	542,458	533,594	538,026	497,096	485,046	1.242	1.119	
Total SW Chips	Ton Chips/yr	1,077,814	1,063,364	1,185,212	1,316,022	1,300,035	1,308,029	1,124,288	1,070,589			
Total HW Chips	Ton Chips/yr	910,280	922,046	587,892	991,857	979,823	985,840	754,969	916,163			
Tall Oil Production	Tons TO/yr	0	3,916	10,876	11,013	7,717	9,365	7,396	1,958			
Tall Oil Ratio	Tons TO/Total ADTBP	0	0.0080	0.0215	0.0203	0.0145	0.017	0.015	0.004	1.242	1.119	Using ADTP production
SW Chip Relationship	Tons SW Chips/Ton SW ADTBP/yr	4.1711811	4.148742	4.4506299	4.476647	4.429246	4.453	4.300	4.160			
HW Chip Relationship	Tons SW Chips/Ton SW ADTBP/yr	3.5006253	3.440158	2.1148096	3.429929	3.497473	3.464	2.777	3.470			
Total Chip Relationship	Tons Chips/Ton ADTBP	4.1223073	4.070014	3.5015423	4.254484	4.272645	4.264	3.786	4.096	1.242	1.119	Using ADTP production

				1650 tons/day	
Mill Relationship	ADTBP	1	1	602250	ADTBP/yr
	lb CaO	700	700	210787.5	tons CaO/yr
	lb BLS	3600	3600	542025	tons BLS/yr/Recovery Furnace

Incremental Increase Ratios			
	BLS	1.230	1.151
	CaO	1.387	1.359
	Pulp	1.242	1.119
	Tall Oil	1.242	1.119
	Chips	1.242	1.119

Table D-12
Summary of Roadway Segment Characteristics
International Paper Company
Pensacola, Florida

Route	Use	Segments Included (in order of travel)	Vehicle Weight (lbs)	Length (mi)	Distance (mi)	Future Round-Trips per Day
1	Chmical Trucks	A	52,500	0.182	0.364	4
2	Wood Trucks to Hardwood Chips	C E G K L N M	55,000	0.923	1.846	97
3	Wood Trucks to Hardwood Logs	C E G K L N M	57,500	0.923	1.846	57
4	Wood Trucks to Softwood Chips	C E G H I J	55,000	0.839	1.678	94
5	Wood Trucks to Softwood Logs	C E G H I	57,500	0.728	1.456	185
6	Finished Product	B	57,500	0.061	0.122	40
7	Ash ponds to Ash Pile	W V	50,000	0.671	1.342	10
8	Kiln to Lime Pile	F G K L O	42,500	0.634	1.268	4
9	Ash to Perdido, N. of P2 between shack and decants	V U S Q P	50,000	1.316	2.632	12
10	Leachate E. side of SB to N of SB	P N O	57,500	0.296	0.592	10
11	Dregs and waste lime, S of Bl to N of SB	P N O	57,500	0.296	0.592	5
12	Sludge, P3 & P4 to between P1 & P2 to W of SB	P Q S T	50,000	1.110	2.220	10
13	Misc	R Q P	50,000	0.534	1.068	6

Table D-13
Summary of Roadway Emissions
International Paper Company
Pensacola, Florida

Segment	Segment Length (ft)	Total Daily VMT (mi)	Mean Truck Weight (lb)	Project PM_{10} Emissions (lb/hr)	Modeled Sources	g/s
A	959.376	1.35	52,500	1.958E-03	13	1.898E-05
B	323.664	4.87	57,500	8.098E-03	7	1.458E-04
C	445.104	73.08	56,397	1.180E-01	5	2.974E-03
D	397.056	0.00	0	0.000E+00	0	#DIV/0!
E	257.136	42.22	56,397	6.819E-02	4	2.148E-03
F	667.392	0.94	42,500	9.932E-04	8	1.564E-05
G	1763.52	292.04	56,278	4.702E-01	20	2.962E-03
H	353.76	37.45	56,656	6.090E-02	4	1.918E-03
I	1021.68	108.15	56,656	1.759E-01	23	9.635E-04
J	586.08	20.96	55,000	3.260E-02	13	3.160E-04
K	205.92	12.30	55,610	1.945E-02	2	1.225E-03
L	454.08	27.13	55,610	4.290E-02	6	9.010E-04
M	546.48	31.88	55,927	5.085E-02	32	2.002E-04
N	1198.56	76.69	56,066	1.228E-01	15	1.031E-03
O	258.72	1.83	54,500	2.808E-03	4	8.845E-05
P	105.6	1.74	52,571	2.529E-03	2	1.593E-04
Q	1716	18.57	50,000	2.467E+00	20	1.554E-02
R	997.92	2.35	50,000	3.122E-01	11	3.577E-03
S	1483.68	12.56	50,000	1.669E+00	18	1.168E-02
T	2555.52	9.62	50,000	1.278E+00	31	5.195E-03
U	3168	14.90	50,000	1.980E+00	39	6.396E-03
V	475.2	4.02	50,000	5.341E-01	5	1.346E-02
W	3067.68	11.55	50,000	1.535E+00	38	5.088E-03

Table D-14
Basis for NO_2 PSD Increment Emission Rates for Sources
International Paper Company
Pensacola, Florida

Emission Unit	ISCST3 Modeling ID	NO_x Increment Emission Rate (g/sec)	Basis for PSD Emission Rate
No. 3 Power Boiler	BOILER3	0.000	Boiler No. 3 operation is unchanged from the NO_2 PSD baseline period, it is assumed that no NO_2 increment is consummed
No. 4 Power Boiler	BOILER4	0.000	Boiler No. 4 operation is unchanged from the NO_2 PSD baseline period, it is assumed that no NO_2 increment is consummed
No. 5 Power Boiler	BOILER5	0.219	Maximum actual annual emissions from 2001/2002 used, boiler installed after the PSD baseline date
No. 6 Power Boiler	BOILER6	0.938	Maximum actual annual emissions from 2001/2002 used, boiler installed after the PSD baseline date
Thermal Oxidizer	INCIN	1.147	Maximum PTE conservatively used
Lime Mud Dryer	LMUDDRY	6.212	Maximum PTE conservatively used
Lime Kiln		1.826	July 1990 thru June 1992 actuals
No. 1 Recovery Furnace	RECVRY1	16.184	New PTE for the Recovery Furnace No. 1
No. 2 Recovery Furnace	RECVRY2	17.560	New PTE for the Recovery Furnace No. 2
Lime Kiln		-1.826	July 1990 thru June 1992 actuals, assumed to be representative of baseline conditions
Baseline No. 1 Recovery Furnace		-9.834	July 1990 thru June 1992 actuals, assumed to be representative of baseline conditions
Baseline No. 2 Recovery Furnace		-8.166	July 1990 thru June 1992 actuals, assumed to be representative of baseline conditions

Table D-15
Basis for SO_2 PSD Increment Emission Rates for Sources
International Paper Company
Pensacola, Florida

Emission Unit	ISCST3 Modeling ID	SO_2 Increment Emission Rate (g/sec)	Basis for PSD Emission Rate
No. 3 Power Boiler	BOILER3	20.682	Maximum 24-hour emission rate from 2001/2002 CEM used, credit for baseline emissions assumed since the boiler is a baseline source. Baseline credit is 128 tpy, EBOILER3
No. 4 Power Boiler	BOILER4	12.623	Maximum 24-hour emission rate from 2001/2002 used, boiler installed after the PSD baseline date
No. 5 Power Boiler	BOILER5	0.015	Maximum actual annual emissions from 2001/2002 used, boiler installed after the PSD baseline date
No. 6 Power Boiler	BOILER6	0.063	Maximum actual annual emissions from 2001/2002 used, boiler installed after the PSD baseline date
Thermal Oxidizer	INCIN	0.630	Actuals emissions based on performance test results for the incinerator
Lime Mud Dryer	LMUDDRY	0.818	Maximum PTE conservatively used
No. 1 Recovery Furnace	RECVRY1	19.030	New PTE for the Recovery Furnace No. 1
No. 2 Recovery Furnace	RECVRY2	19.030	New PTE for the Recovery Furnace No. 2
No. 1 Smelt Dissolving Tank	SMELT1	0.047	New PTE for Smelt Dissolving Tank No. 1
No. 2 Smelt Dissolving Tank	SMELT2	0.047	New PTE for Smelt Dissolving Tank No. 2
Baseline No. 3 Power Boiler	EBOILER3	-3.682	Baseline Emissions 128 tpy
Baseline No. 1 Recovery Furnace	ERECVRY1	-14.57 [a]	Maximum monthly BLS firing for 1990/1991 period assumed to be representative of baseline conditions, maximum monthly BLS was 102,822 lb/hr
Baseline No. 2 Recovery Furnace	ERECVRY2	-14.194 [a]	Maximum monthly BLS firing for 1990/1991 period assumed to be representative of baseline conditions, maximum monthly BLS was 106,057 lb/hr
Decommissioned No. 1 Boiler	BOILER1	-0.109	Average actual June 1990 thru June 1992 actual emissions at time of boiler shutdown
Decommissioned No. 2 Boiler	BOILER2	-0.007	Average actual June 1990 thru June 1992 actual emissions at time of boiler shutdown
Decommissioned Calciner	CALCIN	-0.022	Average actual 1998 and 1999 actual emissions at time of calciner shutdown
Decommissioned Lime Kiln	LIMEKILN	-0.054	Average actual 1998 and 1999 actual emissions at time of lime kiln shutdown
Baseline No. 1 Smelt Tank	ESMELT1	0.000	No baseline data could be located
Baseline No. 2 Smelt Tank	ESMELT2	0.000	No baseline data could be located

[a] The following equation is used: (lb/hr BLS) x (655 MMBtu/hr - which is maximum heat input)/(111,000 lb/hr BLS - which is maximum BLS firing rate) x (0.18 lb SO^2/MMBtu - which is typical BLS characteristic)

Table D-15
Basis for SO_2 PSD Increment Emission Rates for Sources
International Paper Company
Pensacola, Florida

Emission Unit	ISCST3 Modeling ID	SO_2 Increment Emission Rate (g/sec)	Basis for PSD Emission Rate
No. 3 Power Boiler	BOILER3	20.682	Maximum 24-hour emission rate from 2001/2002 CEM used, credit for baseline emissions assumed since the boiler is a baseline source. Baseline credit is 128 tpy, EBOILER3
No. 4 Power Boiler	BOILER4	12.623	Maximum 24-hour emission rate from 2001/2002 used, boiler installed after the PSD baseline date
No. 5 Power Boiler	BOILER5	0.015	Maximum actual annual emissions from 2001/2002 used, boiler installed after the PSD baseline date
No. 6 Power Boiler	BOILER6	0.063	Maximum actual annual emissions from 2001/2002 used, boiler installed after the PSD baseline date
Thermal Oxidizer	INCIN	0.630	Actuals emissions based on performance test results for the incinerator
Lime Mud Dryer	LMUDDRY	0.818	Maximum PTE conservatively used
No. 1 Recovery Furnace	RECVRY1	19.030	New PTE for the Recovery Furnace No. 1
No. 2 Recovery Furnace	RECVRY2	19.030	New PTE for the Recovery Furnace No. 2
No. 1 Smelt Dissolving Tank	SMELT1	0.047	New PTE for Smelt Dissolving Tank No. 1
No. 2 Smelt Dissolving Tank	SMELT2	0.047	New PTE for Smelt Dissolving Tank No. 2
Baseline No. 3 Power Boiler	EBOILER3	-3.682	Baseline Emissions 128 tpy
Baseline No. 1 Recovery Furnace	ERECVRY1	-14.57 [a]	Maximum monthly BLS firing for 1990/1991 period assumed to be representative of baseline conditions, maximum monthly BLS was 102,822 lb/hr
Baseline No. 2 Recovery Furnace	ERECVRY2	-14.194 [a]	Maximum monthly BLS firing for 1990/1991 period assumed to be representative of baseline conditions, maximum monthly BLS was 106,057 lb/hr
Decommissioned No. 1 Boiler	BOILER1	-0.109	Average actual June 1990 thru June 1992 actual emissions at time of boiler shutdown
Decommissioned No. 2 Boiler	BOILER2	-0.007	Average actual June 1990 thru June 1992 actual emissions at time of boiler shutdown
Decommissioned Calciner	CALCIN	-0.022	Average actual 1998 and 1999 actual emissions at time of calciner shutdown
Decommissioned Lime Kiln	LIMEKILN	-0.054	Average actual 1998 and 1999 actual emissions at time of lime kiln shutdown
Baseline No. 1 Smelt Tank	ESMELT1	0.000	No baseline data could be located
Baseline No. 2 Smelt Tank	ESMELT2	0.000	No baseline data could be located

[a] The following equation is used: (lb/hr BLS) x (655 MMBtu/hr - which is maximum heat input)/(111,000 lb/hr BLS - which is maximum BLS firing rate) x (0.18 lb SO^2/MMBtu - which is typical BLS characteristic)

Table D-16
Basis for PM_{10} PSD Increment Emission Rates for Sources
International Paper Company
Pensacola, Florida

Emission Unit	ISCST3 Modeling ID	PM_{10} Increment Emission Rate (g/sec)	Basis for PSD Emission Rate
No. 3 Power Boiler	BOILER3	2.029	Maximum 24-hour emission rate from 2001/2002 used, no credit for baseline emissions assumed although the boiler is a baseline source
No. 4 Power Boiler	BOILER4	6.136	Maximum 24-hour emission rate from 2001/2002 used, boiler installed after the PSD baseline date
No. 5 Power Boiler	BOILER5	0.033	Maximum actual annual emissions from 2001/2002 used, boiler installed after the PSD baseline date
No. 6 Power Boiler	BOILER6	0.015	Maximum actual annual emissions from 2001/2002 used, boiler installed after the PSD baseline date
Thermal Oxidizer	INCIN	0.126	Maximum PTE conservatively used
Lime Mud Dryer	LMUDDRY	1.633	Maximum PTE conservatively used
No. 1 Recovery Furnace	RECVRY1	3.698	New PTE for the Recovery Furnace No. 1
No. 2 Recovery Furnace	RECVRY2	4.012	New PTE for the Recovery Furnace No. 2
No. 1 Smelt Dissolving Tank	SMELT1	1.559	New PTE for Smelt Dissolving Tank No. 1
No. 2 Smelt Dissolving Tank	SMELT2	1.559	New PTE for Smelt Dissolving Tank No. 2
Pine Chip Fines Cyclone	CYCLONF1	0.07938	Maximum PTE conservatively used
Pine Chip No. 1 Cyclone	CYCLON1	0.00076	Maximum PTE conservatively used
Air Density Separator	AIRSEP	0.02646	Maximum PTE conservatively used
Lime Slaker	SLAKVENT	0.2003	Maximum PTE conservatively used
No. 1 Starch Silo	STSILO	0.00857	Maximum PTE conservatively used
No. 2 Starch Silo	STSILO2	0.00857	Maximum PTE conservatively used
Coal Crusher Vent	CRUSHVNT	0.045	Maximum PTE conservatively used
Coal Bunker	CBUNKER	0.1449	Maximum PTE conservatively used
Dry Additive	DRYADD	0.1336	Maximum PTE conservatively used
Clay Silo	CLAYSILO	0.00857	Maximum PTE conservatively used
Baseline No. 3 Power Boiler	EBOILER3	0.000	No baseline data could be located
Baseline No. 1 Recovery Furnace	ERECVRY1	-4.406	September 1975 stack test data indicates baseline emissions of 34.97 lb/hr
Baseline No. 2 Recovery Furnace	ERECVRY2	-3.75	October 1975 stack test data indicates baseline emissions of 29.76 lb/hr
Decommissioned No. 1 Boiler	BOILER1	-0.058	Average actual June 1990 thru June 1992 actual emissions at time of boiler shutdown
Decommissioned No. 2 Boiler	BOILER2	-0.039	Average actual June 1990 thru June 1992 actual emissions at time of boiler shutdown
Decommissioned Calciner	CALCIN	-0.282	Average actual 1998 and 1999 actual emissions at time of calciner shutdown
Decommissioned Lime Kiln	LIMEKILN	0.000	No baseline data could be located
Baseline No. 1 Smelt Tank	ESMELT1	-2.243	Februuary 1989 stack test data considered representative of baseline conditions
Baseline No. 2 Smelt Tank	ESMELT2	-1.373	December 1989 stack test data considered representative of baseline conditions

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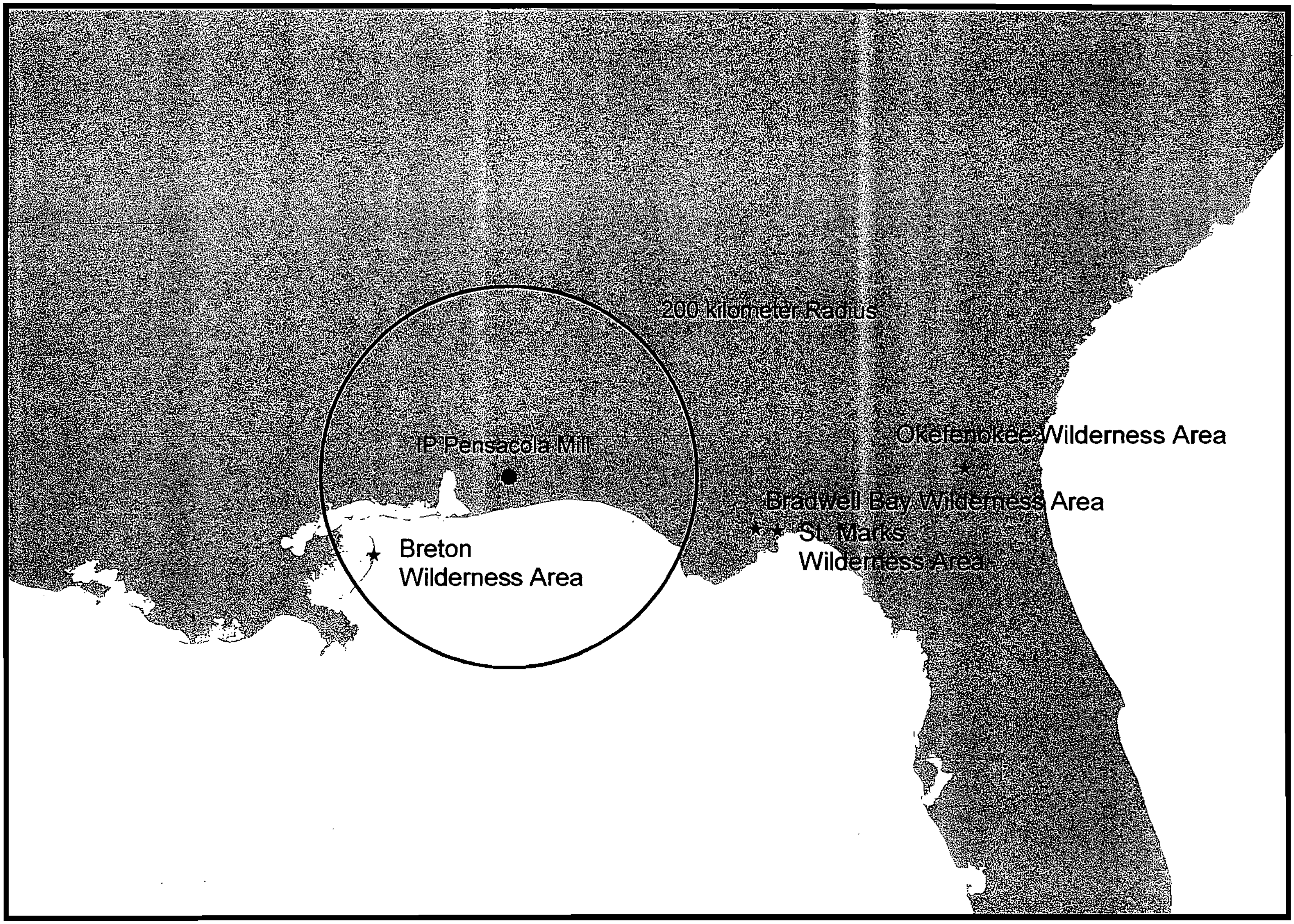

Figure 7-5
Location of Breton Wilderness Class I Area

Table 7-16
CALPUFF Model Options Selected

- Six chemical species modeled, with four chemical species emitted, SO_2, H_2SO_4, NO_X, PM_{10}
- MREG = 0
- Grid Cell Spacing = 4 km and 6 vertical layers
- Background ozone = 80 parts per billion
- Background ammonia = 10 parts per billion
- PM_{10} extinction efficiency = 1.0
- Relative Humidity capped at 98%
- Seasonal f(RH) values from isopleth plots will be used instead of Table 2.B-1 values.
- Winter f(RH) = 3.4
- Spring f(RH) = 4.0
- Summer f(RH) = 4.1
- Fall f(RH) = 3.6

7.5.2 CALPUFF Receptor Grid

A screening level receptor grid was developed for the CALPUFF analysis. The screening level receptor grid consisted of a polar grid, referenced in Cartesian coordinates. The polar grid included radials and downwind rings that corresponded to the closest edge and the mid-point of the Breton Class I area. The 360 one-degree radials and two downwind rings were centered at 160 km and 175 km. Since the Breton Class I area is basically at sea level, no elevations were used for any of the receptors.

7.5.3 CALPUFF Meteorological Data

The same meteorological data as that which was used for the ISCST3 air quality modeling analysis was used for the CALPUFF screening level analysis. The micro-meteorological variables, which are listed in Table 7-17, were used to supplement the processing of the ISCST3 based meteorological data.

The micro-meteorological variables were determined for the area surrounding the Mill based on guidance contained in the AERMET User's Guide (the meteorological processor for the Aermic Model or AERMOD). To account for variability in surface roughness, Bowen ratio, and albedo in the area surrounding the Mill, the USGS 1:24,000 topographic map and ortho quad were reviewed to develop sector-based averages for the three micro-meteorological variables. Additionally, seasonal values of surface roughness, Bowen ratio, and albedo were established. Since the winter season in Pensacola is not typical of more northern latitudes, the fall seasonal values of surface roughness, Bowen ratio, and albedo were used for the winter season.

Table 7-17
Micro-Meteorological Variables
Selected for Pensacola, FL

Micro-Meteorological Variable	Seasonal Value	Upwind Sector	Micro-Meteorological Value
Albedo [a]	Winter	All	0.18
	Spring	All	0.14
	Summer	All	0.20
	Fall	All	0.18
Bowen Ratio [a]	Winter	All	0.5
	Spring	All	0.3
	Summer	All	0.4
	Fall	All	0.5
Surface Roughness [b]	Winter	90 to 120 and 210 to 360	0.2
	Winter	All other sectors	0.05
	Spring	90 to 120 and 210 to 360	0.2
	Spring	All other sectors	0.05
	Summer	90 to 120 and 210 to 360	0.2
	Summer	All other sectors	0.1
	Fall	90 to 120 and 210 to 360	0.2
	Fall	All other sectors	0.05

[a] Values are from the AERMET User's Manual (USEPA 1999)

[b] Values are from Högström and Högström (Högström and Högström 1978)

7.5.4 CALPUFF Visibility Results

The visibility impacts due to emissions from the proposed PSD project were determined by calculating the beta extinction coefficient (B_{ext}) in inverse meg-meters (Mm^{-1}) for a set of receptors that represented distance from the IP Mill to the Breton Wilderness Area. The short-term project related emissions (i.e., 24-hour project emission rates) were used to assess potential impacts on visibility. The maximum 24-hour CALPUFF modeling visibility results for the Breton Wilderness Area indicated that in 1993 there will be a worst case 1.073 Mm^{-1} beta extinction (B_{ext}) due to emissions from the project. When the maximum B_{ext} due to the project and the five years of meteorological data is compared to the 22.633 Mm^{-1} B_{ext}, which corresponds to a "natural" background plus the project related B_{ext}, the delta change is 4.97%. A delta B_{ext} value of less than 5% has been considered acceptable according to FLM guidance. As a result, the proposed PSD project will not adversely impact Class I visibility. The visibility impacts are summarized in Table 7-18.

7.5.5 CALPUFF Ambient Air Concentration Results

The CALPUFF model was used to predict ambient air concentrations for the Breton Wilderness Area. As with the visibility analysis, short-term project-related emissions were used to predict short-term concentrations (3-hour and 24-hour) and long-term project-related emissions were used to predict annual concentrations. The peak short-term and annual concentrations for SO_2, NO_2, and PM_{10} are summarized in Table 7-19. The highest concentrations are less than the Class I PSD increment significance levels recommended by the EPA and the FLM for all averaging periods.

Table 7-18
CALPUFF Visibility Screening Modeling Results
Breton Wilderness Class I Area AQRV Analysis
International Paper Company
Pensacola, Florida

Air Quality Related Value (AQRV) Visibility	Units	Year	Maximum Project Impact [a] Value	 Distance (km)	 Direction [b] (deg)	Significance Threshold
Percent Change in Extinction						
	%	1990	4.95	160.3	291	5
	%	1991	4.06	160.1	196	5
	%	1992	4.97	160.2	209	5
	%	1993	3.58	160.1	188	5
	%	1994	4.54	160.2	245	5

NOTES

[a] - Maximum over all receptors and all years modeled (1990-1994).

[b] - Distance and direction are relative to the No. 5 Power Boiler stack location at UTM coordinates 469,198 m E, 3,385,689 m N.

Table 7-19
CALPUFF Ambient Air Concentration Screening Modeling Results
Breton Wilderness Class I Area AQRV Analysis
International Paper Company
Pensacola, Florida

Ambient Air Concentration	Units	Year	Maximum Project Impact [a] Value	Distance (km)	Direction [b] (deg)	Significance Threshold
Nitrogen Dioxide (NO_2)						
Annual Average	μg/m³	1990	0.004	160.1	166	0.1
	μg/m³	1991	0.004	160.1	166	0.1
	μg/m³	1992	0.005	160.1	169	0.1
	μg/m³	1993	0.005	160.1	168	0.1
	μg/m³	1994	0.005	160.1	180	0.1
Sulfur Dioxide (SO_2)						
3-hour Average	μg/m³	1990	0.255	160.2	149	1.0
	μg/m³	1991	0.207	160.4	353	1.0
	μg/m³	1992	0.256	160.2	223	1.0
	μg/m³	1993	0.203	160.2	143	1.0
	μg/m³	1994	0.188	160.2	224	1.0
24-hour Average	μg/m³	1990	0.069	160.1	167	0.2
	μg/m³	1991	0.064	160.1	196	0.2
	μg/m³	1992	0.062	160.1	157	0.2
	μg/m³	1993	0.071	160.1	187	0.2
	μg/m³	1994	0.066	160.2	250	0.2
Annual Average	μg/m³	1990	0.015	160.1	166	0.1
	μg/m³	1991	0.015	160.1	169	0.1
	μg/m³	1992	0.016	160.1	167	0.1
	μg/m³	1993	0.017	160.1	167	0.1
	μg/m³	1994	0.018	160.1	179	0.1
Particulate Matter 10 Microns						
24-hour Average	μg/m³	1990	0.053	160.3	292	0.3
	μg/m³	1991	0.040	160.3	295	0.3
	μg/m³	1992	0.044	160.2	209	0.3
	μg/m³	1993	0.043	160.3	298	0.3
	μg/m³	1994	0.048	160.4	23	0.3
Annual Average	μg/m³	1990	0.007	160.1	166	0.1
	μg/m³	1991	0.007	160.1	169	0.1
	μg/m³	1992	0.007	160.1	167	0.1
	μg/m³	1993	0.008	160.1	167	0.1
	μg/m³	1994	0.008	160.1	179	0.1

NOTES

[a] - Maximum over all receptors and all years modeled (1990-1994).

[b] - Distance and direction are relative to the No. 5 Power Boiler stack location at UTM coordinates 469,198 m E, 3,385,689 m N.

7.6 CLASS II IMPACTS

A discussion of the impacts of the proposed project on the Class II area surrounding the Mill is provided in this subsection. As part of this discussion, the potential growth resulting from the project will be estimated. Additionally, acidification of rainfall and impacts on soil and vegetation will be qualitatively addressed. Finally a discussion of the impact that VOC emissions from the project may have on existing ozone levels is provided.

7.6.1 Potential Growth

According to Florida Administrative Code (F.A.C.) Rule 62-212.400(3)(h)(5), information concerning the air quality, commercial, residential, and industrial growth since 1977 should be addressed "in the area the facility or modification would affect". For purposes of defining the area where the proposed modification will have an affect, the annual significant impact area for SO_2 was selected. Project related emissions of SO_2 resulted in the greatest downwind distance to a 1.0 $\mu g/m^3$ concentration level relative to PM_{10} and NO_2. Since changes in growth are long-term, an annual averaging period should be used to establish the area for assessing any changes that have occurred since 1977. For the proposed project, the maximum SIA extends approximately 7 km from the center of the Mill processing area. USGS maps for the 1977 time period and a recent 1999 digital ortho photo quads were used to assess the growth within the SIA.

A circle with a radius of 7 km was established and used with USGS maps to establish the baseline conditions for the 1977 period. The 1:24,000 scale USGS topographic map for this time period shows that there are residential communities to the west and northwest of the Mill. In addition, there is a small community to the east of the Mill. The digital ortho quad shows that there has been some expansion of these residential communities in the past 25 years especially the small community to the east of the Mill, which has increased by 70 to 80 homes. Also, several small businesses have been established to the east of the Mill. A significant portion of the land used within a 7 km radius of the Mill is unchanged from the baseline period.

The proposed project is not expected to contribute to significant growth at the Mill. No additional employees will be required as a result of the changes. Furthermore, there is no anticipated increase in local industrial growth due to this project.

7.6.2 Acidification of Rainfall and Soil

Vegetation can be impacted from the emission of excessive amounts of common atmospheric pollutants such as sulfur dioxide, nitrogen oxides, carbon monoxide, carbon dioxide, hydrogen fluoride, ozone, hydrocarbons, particulates and metals (Malhotra and Khan, 1984). In general, however the main atmospheric pollutants that affect vegetation are nitrate, sulfate and ozone, with ozone causing more damage to plants than all other air pollutants combined (ARS, 1999). The sensitivity of vegetation to atmospheric pollution varies greatly with such factors as plant species and variety, climatic and seasonal conditions, soil composition, the concentration and duration of exposure, and the nature of combinations of pollutants (Treshow, 1984; Whitmore, 1985). In general, plants tend to be more susceptible to visible damage during spring and summer growing seasons and when exposed to short-term, high concentrations as opposed to continuous lower levels of pollution (Hicks, 1978).

A summary of research on air pollution effects on vegetation divides air pollution injuries to plants into three general categories: acute, chronic, and subtle (Treshow, 1984). Acute injury is caused by exposure to a high concentration of a substance resulting in rapid visible death of some tissue. Chronic injury is caused by long-term exposure to low pollutant levels which gradually disrupts physiological processes and retards growth or yield (Hicks, 1978). The long-term subtle effects of air pollution on vegetation have been demonstrated (MacKenzie and El-Ashry, 1989). However, determining the threshold concentrations and exposure times that may cause subtle damage is difficult to define. The ambient air concentration levels that trigger acute and chronic effects are higher than the levels that can be expected from the Mill. A brief discussion of the possible impacts of NO_X, SO_2, and PM_{10} emissions on vegetation is provided below.

7.6.2.1 Nitrogen Oxides

Research has demonstrated that significant impacts to vegetation from nitrogen dioxide are limited to concentrations comparable to highly polluted areas (greater than 1,886 μ/m^3). These impacts include reduced growth and yield, reduced photosynthesis and plant metabolism impacts (Whitmore, 1985). Studies at lower concentrations of nitrogen dioxide have shown mixed results that are species specific. The response of species also varied with nutrient status of the soil (Whitmore, 1985).

Potential damage to vegetation in the area surrounding the Mill from oxides of nitrogen is unlikely. In general, acute damage to vegetation is not likely to occur at levels found outdoors, although some reduction in growth might occur at continuous nitrogen dioxide levels as low as 200 – 500 ug/m^3 (Joosting and ten Houten, 1972, Whitmore, 1985). These values are significantly above the NAAQS for nitrogen dioxide (100 ug/m^3). In view of the information presented on nitrogen dioxide levels that produce effects and the small increase in ambient concentration levels anticipated as a result of the proposed project at the Mill, adverse effects on vegetation are not expected to occur.

7.6.2.2 Sulfur Dioxide

Elevated SO_2 concentrations have the potential to damage vegetation. Sulfur dioxide passes through the plant's stomata and is absorbed into the leaf tissue. After the SO_2 has been absorbed into the leaf tissue, it is converted to sulfate, which is relatively non-toxic, or sulfite, which demonstrates a greater toxicity. Sulfite is subsequently converted to sulfurous acid that damages plant cells. Plants, especially conifers, appear to be most susceptible to SO_2 damage during spring and summer. Damage to susceptible plants has been reported due to short-term exposure to SO_2 concentrations of 1,200 $\mu g/m^3$. The ambient air SO_2 concentrations due to emission from the Mill are below NAAQS and thus should ensure that local vegetation is not adversely affected.

7.6.2.3 Particulate Matter

Particulate matter, another pollutant associated with the proposed Mill modification, is not likely to cause adverse effects on vegetation. Investigation of particulate effects on plants has generally shown no damage, although some interference with respiration and photosynthesis might occur if heavy crusts of dust accumulate on moist plant tissue (Jackson et al., 1970). This level of accumulation is more likely to be associated with heavy agricultural or construction activities than with highly controlled industrial particulate emissions. Furthermore, natural weather conditions tend to remove dust and particulates from plant surfaces before heavy accumulations can build up. Consequently, no adverse effects on vegetation are expected to result from PM_{10} emissions due to the Mill.

7.6.3 Increase in Ozone Levels

The area surrounding the Pensacola Mill is in attainment with the current 1-hour ozone standard. The most recent two years of ozone monitoring data for the Pensacola area are summarized in Table 7-20. It is anticipated that the proposed project related increase in VOC emissions (approximately 425 tpy) will not adversely impact these existing levels. In order to provide a semi-quantitative assessment of the impact project related VOC emissions could have on existing ozone levels, an ozone analysis using the Scheffe method was conducted.

The Scheffe method incorporates work that was performed by Mr. Richard Scheffe for U.S. EPA's Office of Air Quality Planning and Standards (OAQPS) Source Receptor Analysis Branch. These procedures were developed as a draft in September 1988 and have not been finalized. The Scheffe approach is based on model predictions from the Reactive Plume Model–II (RPM–II). Multiple modeling analyses were performed using the RPM–II to develop two tables that related mass emission rates of VOC and oxides of nitrogen (NO_X) from a single point source to ozone concentrations. The tables were generated for application in rural and urban areas. The RPM–II ozone concentration results that were generated are conservative predictions.

Table 7-20
Ozone Monitoring Data

Year	1-Hour Monitored Value ($\mu g/m^3$)	Monitor Location
2002	0.102	Ellyson Industrial Park, Escambia County
2002	0.092	Naval Air Station, Escambia County
2002	0.098	Navy Blvd, Escambia County
2001	0.104	Ellyson Industrial Park, Escambia County
2001	0.106	Naval Air Station, Escambia County
2001	0.092	Navy Blvd, Escambia County

To use the Scheffe tables, an annual VOC emission rate based on daily maximum VOC emissions and a VOC/NO_X annual emission ratio are required. The maximum daily VOC emissions from the Pensacola facility include emissions from all the project related sources is equal to 455 tpy.

The annual NO_X and VOC emission rates, which are based on project related emission, were used to calculate a VOC/NO_X ratio. As previously stated the VOC annual emissions are 455 tpy. The annual project-related NO_X emissions are estimated to be approximately 870 tpy. Using the 455 tpy VOC and 870 tpy NO_X emission rates, the VOC/NO_X emission ratio is 0.52

The maximum annual VOC emission rate of 455 tpy and the 0.52 VOC/NO_X emission ratio were used with the rural matrix of ozone values that are listed in Table 1 of the Scheffe report. The ozone values listed in Scheffe Table 1 for 300 tpy and 500 tpy of VOC are 1.7 parts per hundred million (pphm) and 1.9 pphm. Performing a linear interpolation between the 1.9 pphm and 1.7 pphm values results in an expected ozone impact of 1.85 pphm or 0.0185 ppm. These calculations are summarized in Table 7-21.

The predicted ambient air ozone concentration due to the proposed project at the Pensacola facility is 0.0185 ppm or approximately 14.5% of the current ozone standard (0.12 ppm). This contribution is a relatively minor amount of the total, regional ozone level as determined from 2001 and 2002 ozone monitoring data from Escambia County, which are listed in Table 7-20. IP believes that using the Scheffe modeling approach represents a conservative demonstration of what potential ozone concentrations could result due to VOC and NO_X emission from the Pensacola Mill. Therefore, there is no need to conduct ozone monitoring as a result of the proposed project.

Table 7-21
Ozone Calculations (Revised September 2004)
International Paper Company
Pensacola, Florida

Pollutant	Calculated Annual NO_X and VOC Emissions (tpy)	Maximum Annual Emissions (tpy)
NO_X	871	871
VOC	455.45	455

VOC/NO_X Ratio		0.52

Scheffe VOC Emissions (tpy)	Rural Based Ozone Level for Sources with 0.52 VOC/NO_X Ratio (pphm)
300	1.7
500	1.9

Calculated VOC Emissions (tpy)	Interpolated Ozone Level (pphm)	Ozone Level (ppm)
455.45	1.85545	0.019

Interpolated Ozone Level = ((455-300) x (1.9-1.7))/(500-300) + 1.7

7.7 TRS IMPACTS

Several of the emissions units that will be modified as a result of the project emit TRS. The projected TRS emission increase due to the project is 53.48 tons per year of which 40.65 tons is calculated to occur from modified emissions units. However the increase in TRS emissions on an actual basis is much lower and is estimated to be approximately 6.87 tons from modified sources (24.2% increase above 2002/2001 baseline TRS emissions) and 12.83 tons from affected sources. Furthermore, several of the affected sources will be controlled as part of the MACT I Subpart S and thus the actual tons of TRS emitted in the future will be lower than projected. Since the major sources of TRS emissions are associated with tall stacks at the Mill, with substantial flow, and relatively low TRS emission rates, no adverse concentration levels of TRS compounds are expected outside of the facility boundary.

7.8 REFERENCES

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