



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION IV

345 COURTLAND STREET, N.E.  
ATLANTA, GEORGIA 30365

JAN 20 1993

4APT-AE

Mr. Clair H. Fancy, P.E., Chief  
Bureau of Air Regulation  
Florida Department of Environmental  
Regulation  
Twin Towers Office Building  
2600 Blair Stone Road  
Tallahassee, Florida 32399-2400

RE: Champion International Corporation (PSD-FL-200)

Dear Mr. Fancy:

This is to acknowledge receipt the application for a Prevention of Significant Deterioration (PSD) permit by the above referenced facility by letter dated December 21, 1992. The proposed project includes the construction of a new gas-fired power boiler, the modification of the existing lime kiln, and the modification of the existing bleach lines. The project will be subject to PSD review for the emissions of NO<sub>x</sub>, CO, and VOC.

As discussed between Mr. Bruce Mitchell of your staff and Mr. Gregg Worley of my staff on January 15, 1993, we have reviewed the package as requested and have no adverse comments. If you have any questions or comments, please contact Mr. Gregg Worley of my staff at (404) 347-5014.

Sincerely yours,

*for Gregg M. Worley*  
Brian L. Beals, Chief  
Source Evaluation Unit  
Air Enforcement Branch  
Air, Pesticides and Toxics  
Management Division

*B. Mitchell*  
*C. Halladay*  
*C. Middlebrook, NW Dist.*  
*G. Bumpal, NPS*  
*J. Cole, OHF&C*  
*J. Glenn*

RECEIVED

JAN 25 1993

Division of Air  
Resources Management

Meeting 2 DER

Champion International Corp.

PS1) - FL-200

Bonnie Mitchell	FDER/DARM/BAR	904-488-1344
KYLE MOORE	CHAMPION	904-968-4253
John Berone	WESTON	215 430-7218
C/ve Holladay	FDER/DARM/BAR	904-488-1344
Steve Webb	Champion	904-968-2121 x2498
Willie Tims, Jr.	Champion	904-968-4256

TABLE D-2

CHAMPION PENSACOLA MILL  
 Future Chloroform Emission Rates  
 (100% ClO<sub>2</sub> Substitution)

SOURCE	EMISSION FACTOR (#/ADT)	EMISSION RATE*		% OF GENERATION RATE**
		(lbs/yr)	(lbs/hr)	
A-line Cl <sub>2</sub> Scrubber	.0054	2956.5	0.3375	27
A-line E <sub>o</sub> Washer	.0006	328.5	0.0375	3
B-line Cl <sub>2</sub> Scrubber	.0054	2956.5	0.3375	27
B-line E <sub>o</sub> Washer	.0006	328.5	0.0375	3
A + B-line Wastewater	.008	4380.0	0.50	40
Total	0.02	10,950	1.25	100

} 60% - Air Stream

} - Wastewater

\* Based on 1500 ADT/day and applicable emission factor.

\*\* Based on existing facility splits for: air vs. wastewater; scrubber vs. E<sub>o</sub> washer; softwood vs. hardwood.

**TABLE 3-6  
CHAMPION  
PENSACOLA, FLA**

**SUMMARY OF FUTURE MAXIMUM ANNUAL EMISSIONS**

<b>SOURCE</b>	<b>NO<sub>x</sub></b>	<b>SO<sub>2</sub></b>	<b>CO</b>	<b>PM/PM<sub>10</sub></b>	<b>VOC</b>	<b>TRS</b>
#6 POWER BOILER	140.07 tons	2.17 tons	233.45 tons	11.67 tons	23.35 tons	NA
LIME KILN MUDDRYER	215.93 tons	28.43 tons	29.57 tons	47.74 tons	107.31 tons	6.39 tons
LINE A- Cl <sub>2</sub> SCRUBBER <sup>(1)</sup>	NA	NA	NA	NA	1.48 tons	NA
LINE A- E <sub>o</sub> WASHER <sup>(1)</sup>	NA	NA	NA	NA	0.16 tons	NA
LINE B- Cl <sub>2</sub> SCRUBBER <sup>(2)</sup>	NA	NA	NA	NA	1.48 tons	NA
LINE B- E <sub>o</sub> WASHER <sup>(2)</sup>	NA	NA	NA	NA	0.16 tons	NA
<b>TOTAL</b>	356.01 tons	30.60 tons	263.02 tons	59.41 tons	133.94 tons	6.39 tons

- (1) Softwood
- (2) Hardwood

3-16

**TABLE C-4  
CHAMPION  
PENSACOLA, FLA  
SUMMARY OF BASELINE EMISSIONS**

**JULY 1991 - JUNE 1992**

SOURCE	NO <sub>x</sub>	SO <sub>2</sub>	CO	PM/PM <sub>10</sub>	VOC	TRS
#1 POWER BOILER	43.85 tons	0.41 tons	43.85 tons	2.19 tons	11.67 tons	NA
#2 POWER BOILER	134.23 tons	0.30 tons	31.96 tons	1.60 tons	8.58 tons	NA
LIME KILN	64.36 tons	1.79 tons	5.81 tons	58.13 tons	1.70 tons	8.39 tons
LINE A- Cl <sub>2</sub> SCRUBBER <sup>(1) (3)</sup>	NA	NA	NA	NA	10.74 tons	NA
LINE A- E <sub>o</sub> WASHER <sup>(1) (3)</sup>	NA	NA	NA	NA	1.16 tons	NA
LINE B- Cl <sub>2</sub> SCRUBBER <sup>(2) (4)</sup>	NA	NA	NA	NA	15.40 tons	NA
LINE B- E <sub>o</sub> WASHER <sup>(2) (4)</sup>	NA	NA	NA	NA	2.05 tons	NA
TOTAL	242.44 tons	2.49 tons	81.62 tons	61.92 tons	51.31 tons	8.39 tons

(1) Softwood

(2) Hardwood

(3) VOC emission rates are based on the lb/ADTP emission factor and actual softwood pulp (ADTP) production.

(4) VOC emission rates are based on the lb/ADTP emission factor and actual hardwood pulp (ADTP) production.

**TABLE 3-2  
CHAMPION  
PENSACOLA, FLA  
SUMMARY OF BASELINE ANNUAL EMISSIONS VS FUTURE MAXIMUM ANNUAL EMISSIONS**

(tons/yr)

SOURCE	NO <sub>x</sub>			SO <sub>2</sub>			CO		
	ACTUAL	FUTURE	CHANGE	ACTUAL	FUTURE	CHANGE	ACTUAL	FUTURE	CHANGE
#6 POWER BOILER	NA	140.07	140.07	NA	2.17	2.17	NA	233.45	233.45
LIME KILN MUDDRYER <sup>(3)</sup>	63.46	215.93	152.48	1.76	28.43	26.67	5.73	29.57	23.83
#1 POWER BOILER	40.57	NA	-40.57	0.38	NA	-0.38	40.57	NA	-40.57
#2 POWER BOILER	113.20	NA	-113.20	0.25	NA	-0.25	26.95	NA	-26.95
LINE A- Cl <sub>2</sub> SCRUBBER <sup>(1)</sup>	NA	NA	NA	NA	NA	NA	NA	NA	NA
LINE A- E <sub>o</sub> WASHER <sup>(1)</sup>	NA	NA	NA	NA	NA	NA	NA	NA	NA
LINE B- Cl <sub>2</sub> SCRUBBER <sup>(2)</sup>	NA	NA	NA	NA	NA	NA	NA	NA	NA
LINE B- E <sub>o</sub> WASHER <sup>(2)</sup>	NA	NA	NA	NA	NA	NA	NA	NA	NA
<b>TOTALS</b>	<b>217.23</b>	<b>356.01</b>	<b>138.78</b>	<b>2.39</b>	<b>30.60</b>	<b>28.21</b>	<b>73.26</b>	<b>263.02</b>	<b>189.76</b>

SOURCE	PM/PM <sub>10</sub>			VOC			TRS		
	ACTUAL	FUTURE	CHANGE	ACTUAL	FUTURE	CHANGE	ACTUAL	FUTURE	CHANGE
#6 POWER BOILER	NA	11.67	11.67	NA	23.35	23.35	NA	NA	NA
LIME KILN MUDDRYER <sup>(3)</sup>	57.32	47.74	-9.58	1.68	107.31	105.63	8.27	6.39	-1.88
#1 POWER BOILER	2.03	NA	-2.03	10.84	NA	-10.84	NA	NA	NA
#2 POWER BOILER	1.35	NA	-1.35	6.72	NA	-6.72	NA	NA	NA
LINE A- Cl <sub>2</sub> SCRUBBER <sup>(1)</sup>	NA	NA	NA	10.72	1.48	-9.24	NA	NA	NA
LINE A- E <sub>o</sub> WASHER <sup>(1)</sup>	NA	NA	NA	1.16	0.16	-1.00	NA	NA	NA
LINE B- Cl <sub>2</sub> SCRUBBER <sup>(2)</sup>	NA	NA	NA	15.30	1.48	-13.82	NA	NA	NA
LINE B- E <sub>o</sub> WASHER <sup>(2)</sup>	NA	NA	NA	2.04	0.16	-1.88	NA	NA	NA
<b>TOTALS</b>	<b>60.69</b>	<b>59.41</b>	<b>-1.28</b>	<b>48.45</b>	<b>133.94</b>	<b>85.49</b>	<b>8.27</b>	<b>6.39</b>	<b>-1.88</b>

(1) Softwood

(2) Hardwood

(3) 95% control efficiency is assumed for the future case SO<sub>2</sub> condition.

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**TABLE 3-1**

**CHAMPION - PENSACOLA  
SUMMARY OF AFFECTED SOURCES**

<b>BASELINE SOURCES</b>	
	No. 1 Power Boiler
	No. 2 Power Boiler
	Lime Kiln
A-Line	Softwood Bleach Plant Scrubber Softwood Bleach Plant E <sub>o</sub> Washer
B-Line	Hardwood Bleach Plant Scrubber Hardwood Bleach Plant E <sub>o</sub> Washer
<b>FUTURE SOURCES</b>	
	No. 6 Power Boiler
	Lime Kiln-Mud Dryer
A-Line	Softwood Bleach Plant Scrubber Softwood Bleach Plant E <sub>o</sub> Washer
B-Line	Hardwood Bleach Plant Scrubber Hardwood Bleach Plant E <sub>o</sub> Washer

**TABLE C-3  
CHAMPION  
PENSACOLA, FLA  
SUMMARY OF BASELINE EMISSIONS**

**JULY 1990 - JUNE 1991**

SOURCE	NO <sub>x</sub>	SO <sub>2</sub>	CO	PM/PM <sub>10</sub>	VOC	TRS
#1 POWER BOILER	37.29 tons	0.35 tons	37.29 tons	1.86 tons	10.00 tons	NA
#2 POWER BOILER	92.17 tons	0.20 tons	21.95 tons	1.10 tons	4.85 tons	NA
LIME KILN	62.56 tons	1.74 tons	5.65 tons	56.50 tons	1.65 tons	8.15 tons
LINE A- Cl <sub>2</sub> SCRUBBER <sup>(1)</sup> (3)	NA	NA	NA	NA	10.70 tons	NA
LINE A- E <sub>o</sub> WASHER <sup>(1)</sup> (3)	NA	NA	NA	NA	1.16 tons	NA
LINE B- Cl <sub>2</sub> SCRUBBER <sup>(2)</sup> (4)	NA	NA	NA	NA	15.20 tons	NA
LINE B- E <sub>o</sub> WASHER <sup>(2)</sup> (4)	NA	NA	NA	NA	2.03 tons	NA
<b>TOTAL</b>	192.02 tons	2.29 tons	64.89 tons	59.47 tons	45.60 tons	8.15 tons

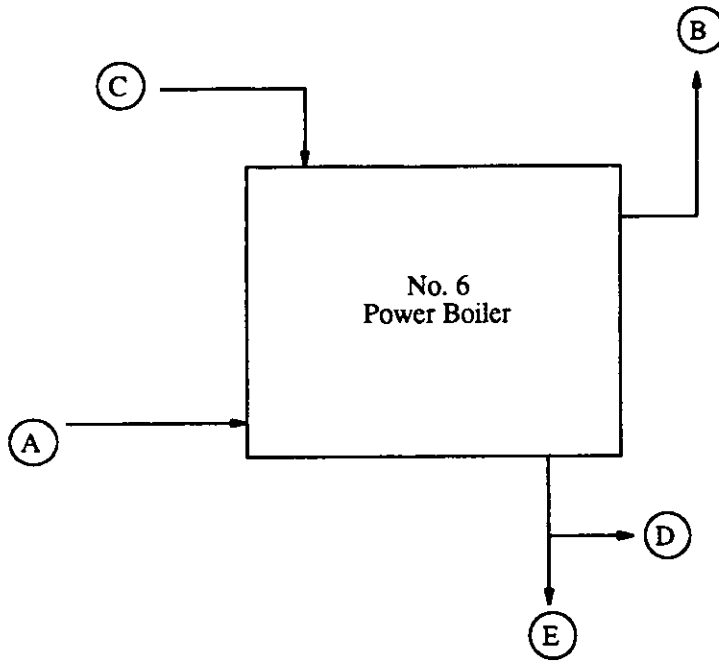
(1) Softwood

(2) Hardwood

(3) VOC emission rates are based on the lb/ADTP emission factor and actual softwood pulp (ADTP) production.

(4) VOC emission rates are based on the lb/ADTP emission factor and actual hardwood pulp (ADTP) production.





(A)	Natural Gas	533 MCFH
(B)	Stack Effluent	161,000 ACFM
(C)	Feed Water	6,667 lb/min
(D)	Steam	384 KPPH
(E)	Blow Down	266.7 lb/min

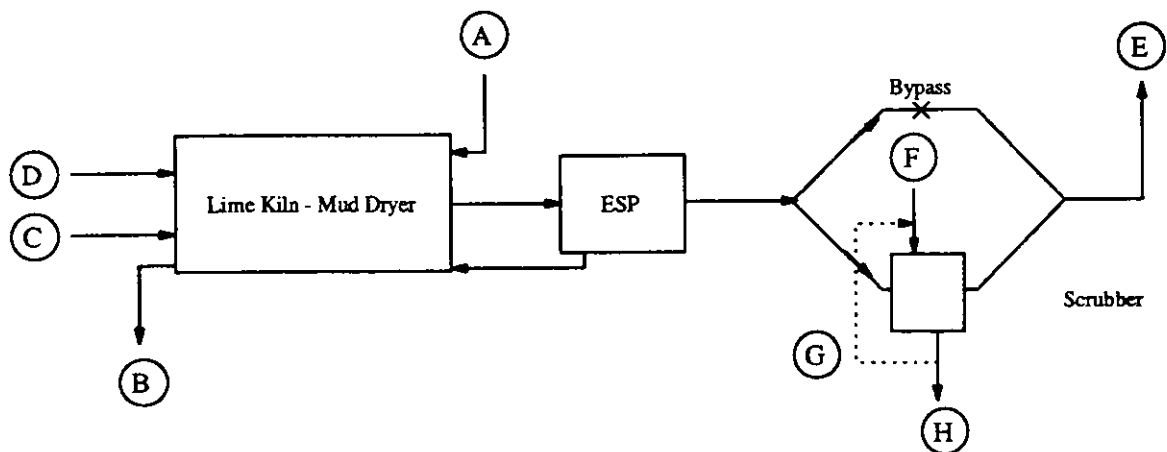
**Process Flow Diagram 1  
No. 6 Power Boiler**

**TABLE 4-1**  
**PSD POLLUTANT SIGNIFICANCE LEVELS<sup>1</sup>**

<b>POLLUTANT</b>	<b>PSD SIGNIFICANT INCREASE LEVEL (ton/yr)</b>	<b>PROPOSED NET EMISSION RATE CHANGES (ton/yr)<sup>2</sup></b>	<b>CHAMPION'S PROPOSED CHANGES SIGNIFICANT (yes/no)</b>
PM <sub>10</sub>	15	-1.3	no
Total Suspended Particulate	25	-1.3	no
Sulfur Dioxide	40	27.4	no
Nitrogen Oxides	40	138.8	yes
Volatile Organic Compound	40	85.5	yes
Carbon Monoxide	100	189.8	yes
Total Reduced Sulfur Compounds	10	-1.9	no

<sup>1</sup> From EPA PSD regulations.

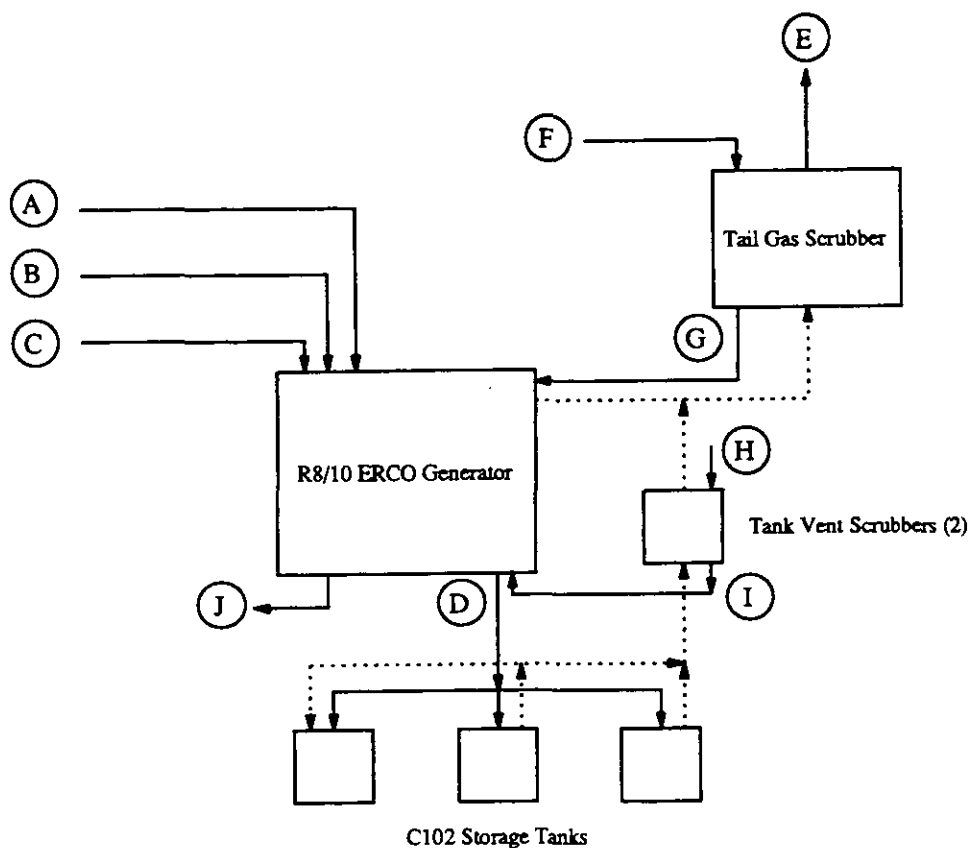
<sup>2</sup> The proposed emission rate changes are based upon the addition of the No. 6 Power Boiler, modification of the Lime Kiln-Mud Dryer and the deletion of the No. 1 Power Boiler, and No. 2 Power Boilers.



(A)	Lime Mud	893 T/D
(B)	Product Lime	500 T/D
(C)	Fuel - Natural Gas - No. 6 Oil	144.231 MCFH 1,000 GPH
(D)	NCGs	358 lb/hr *
(E)	Stack Effluent	57,208 ACFM
(F)	Scrubber Makeup	25 GPM
(G)	Scrubber Recirculation	1,700 GPM
(H)	Scrubber Blowdown	5 GPM

\* Based on 1,718 ADBT/D

**Process Flow Diagram 2  
Lime Kiln - Mud Dryer**



(A)	Methanol	5.6 T/D
(B)	Sulfuric Acid	29.6 T/D
(C)	Sodium Chlorate	61.3 T/D
(D)	Chlorine Dioxide	37.4 T/D
(E)	Stack Effluent	1,321.0 ACFM
(F)	Makeup White Liquor to Scrubber	<1.0 GPM
(G)	Scrubber Discharge	1.0 GPM
(H)	Water to Tank Vent Scrubbers	79.1 GPM
(I)	Tank Vent Scrubber Discharge	79.1 GPM
(J)	Saltcake Generation	33.6 T/D

**Process Flow Diagram 3**  
**Chlorine Dioxide Generator**

**TABLE D-1**

**CHAMPION PENSACOLA MILL  
BASELINE CHLOROFORM EMISSION RATES**

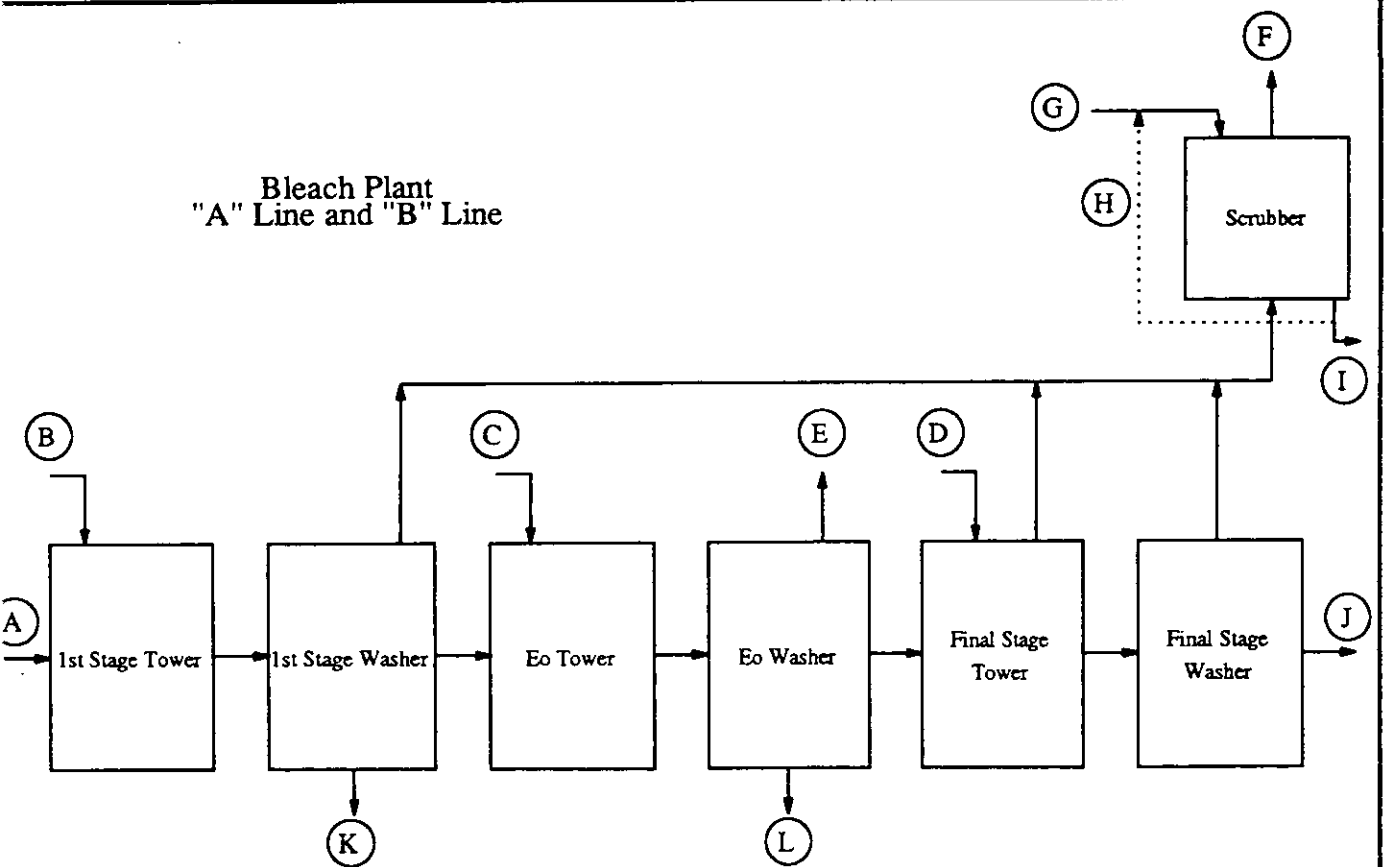
A Line - softwood, permit limits: 800 ADT/day Annual Average  
 Line 2 - 888 ADT/day 24-hr Average

B Line - hardwood, permit limits: 600 ADT/day Annual Average  
 Line 1 - 792 ADT/day 24-hr Average

**I. GAS PHASE**

SOURCE	EMISSION FACTOR (lb/ADTP)*	EMISSION RATES			
		AVERAGE		MAXIMUM	
		(lb/hr)	(g/sec)	(lb/hr)	(g/sec)
A - Cl <sub>2</sub> Scrubber	0.083	2.77	0.349	3.07	0.387
A - E <sub>o</sub> Washer	0.009	0.300	0.038	0.333	0.042
B - Cl <sub>2</sub> Scrubber	0.120	3.00	0.378	3.96	0.499
B - E <sub>o</sub> Washer	0.016	0.400	0.050	0.528	0.067

Bleach Plant  
"A" Line and "B" Line



	"A" Line	"B" Line
(A) Unbleached Pulp	910.8 ADT/D	851.3 ADT/D
(B) CLO <sub>2</sub>	10.7 T/D	6.3 T/D
(C) Peroxide	3.3 T/D	3.1 T/D
(D) CLO <sub>2</sub>	8.2 T/D	5.0 T/D
(E) Eo Washer Vent Gas	13,812 ACFM	8,227 ACFM
(F) Scrubber Vent Gas	10,200 ACFM	7,350 ACFM
(G) Scrubber Makeup Flow	1.1 GPM	.2 GPM
(H) Scrubber Recirculation	225 GPM	190 GPM
(I) Scrubber Blowdown	2 GPM	.1 GPM
(J) Bleached Pulp	888 ADT/D	830 ADT/D
(K) Acidic Effluent	3.5 MGD	3.5 MGD
(L) Alkaline Effluent	2.3 MGD	2.3 MGD

Process Flow Diagram 4  
Bleach Plant

**TABLE 3-5  
CHAMPION  
PENSACOLA, FLA  
SUMMARY OF EMISSION FACTORS AND HOURLY EMISSION RATES**

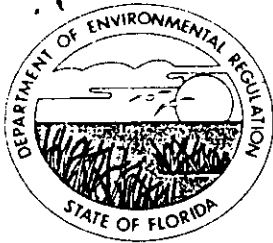
**FUTURE MAXIMUM ANNUAL EMISSIONS**

SOURCE	NO <sub>x</sub>		SO <sub>2</sub>		CO	
	EMISSION FACTOR	HOURLY RATE (lb/hr)	EMISSION FACTOR	HOURLY RATE (lb/hr)	EMISSION FACTOR	HOURLY RATE (lb/hr)
#6 POWER BOILER	0.06 lb/MMBtu	32.0	0.00093 lb/MMBtu	0.50	0.1 lb/MMBtu	53.3
LIME KILN MUDDRYER	49.3 lb/hr	49.3	6.49 lb/hr	6.49	6.75 lb/hr	6.75
LINE A- Cl <sub>2</sub> SCRUBBER <sup>(1) (3)</sup>	NA	NA	NA	NA	NA	NA
LINE A- E <sub>0</sub> WASHER <sup>(1) (3)</sup>	NA	NA	NA	NA	NA	NA
LINE B- Cl <sub>2</sub> SCRUBBER <sup>(2) (4)</sup>	NA	NA	NA	NA	NA	NA
LINE B- E <sub>0</sub> WASHER <sup>(2) (4)</sup>	NA	NA	NA	NA	NA	NA

SOURCE	PM/PM <sub>10</sub>		VOC		TRS	
	EMISSION FACTOR	HOURLY RATE (lb/hr)	EMISSION FACTOR	HOURLY RATE (lb/hr)	EMISSION FACTOR	HOURLY RATE (lb/hr)
#6 POWER BOILER	0.005 lb/MMBtu	2.67	0.01 lb/MMBtu	5.33	NA	NA
LIME KILN MUDDRYER	10.9 lb/hr	10.9	24.5 lb/hr	24.5	1.46 lb/hr	1.46
LINE A- Cl <sub>2</sub> SCRUBBER <sup>(1) (3)</sup>	NA	NA	0.3375 lb/hr	0.3375	NA	NA
LINE A- E <sub>0</sub> WASHER <sup>(1) (3)</sup>	NA	NA	0.0375 lb/hr	0.0375	NA	NA
LINE B- Cl <sub>2</sub> SCRUBBER <sup>(2) (4)</sup>	NA	NA	0.3375 lb/hr	0.3375	NA	NA
LINE B- E <sub>0</sub> WASHER <sup>(2) (4)</sup>	NA	NA	0.0375 lb/hr	0.0375	NA	NA

- (1) Softwood
- (2) Hardwood
- (3) The VOC emission factor is based on 750 ADTP/day (softwood) and pulp production 24 hr/day.
- (4) The VOC emission factor is based on 750 ADTP/day (hardwood) and pulp production 24 hr/day.

3-15



# Florida Department of Environmental Regulation

Twin Towers Office Bldg. • 2600 Blair Stone Road • Tallahassee, Florida 32399-2400

Lawton Chiles, Governor

Carol M. Browner, Secretary

December 21, 1992

Mr. Richard E. Grusnick, Chief  
Air Division  
Alabama Dept. of Environmental Management  
State Capitol  
Montgomery, AL 36130

Dear Mr. Grusnick:

RE: Champion International Corp.  
Pulp Mill Modifications  
Escambia County, PSD-FL-200

The Department has received the above referenced PSD application package. Please review this package and forward your comments to the Department's Bureau of Air Regulation by January 15, 1993. The Bureau's FAX number is (904)922-6979.

If you have any questions, please contact Bruce Mitchell or Cleve Holladay at (904)488-1344 or write to me at the above address.

Sincerely,

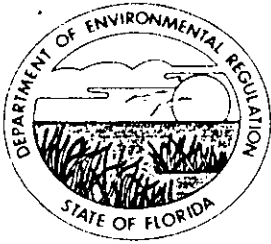
*Patricia G. Adams*

*for* C. H. Fancy, P.E.  
Chief  
Bureau of Air Regulation

CHF/pa

Enclosures





# Florida Department of Environmental Regulation

Twin Towers Office Bldg. • 2600 Blair Stone Road • Tallahassee, Florida 32399-2400

Lawton Chiles, Governor

Carol M. Browner, Secretary

December 21, 1992

Ms. Jewell A. Harper, Chief  
Air Enforcement Branch  
U.S. EPA, Region IV  
345 Courtland Street, N.E.  
Atlanta, Georgia 30308

Dear Ms. Harper:

RE: Chamption International Corp.  
Pulp Mill Modifications  
Escambia County, PSD-FL-200

The Department has received the above referenced PSD application package. Please review this package and forward your comments to the Department's Bureau of Air Regulation by January 15, 1993. The Bureau's FAX number is (904)922-6979.

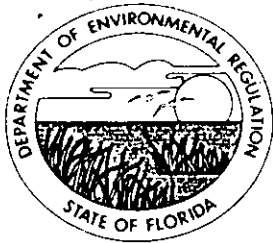
If you have any questions, please contact Bruce Mitchell or Cleve Holladay at (904)488-1344 or write to me at the above address.

Sincerely,

*Patricia G. Adams*  
for C. H. Fancy, P.E.  
Chief  
Bureau of Air Regulation

CHF/pa

Enclosures



# Florida Department of Environmental Regulation

Twin Towers Office Bldg. • 2600 Blair Stone Road • Tallahassee, Florida 32399-2400

Lawton Chiles, Governor

Carol M. Browner, Secretary

December 21, 1992

Mr. Brian Mitchell, Acting Chief  
Policy, Planning and Permit Review Branch  
National Park Service-Air Quality Division  
P. O. Box 25287  
Denver, CO 80225

Dear Mr. Mitchell:

RE: Champion International Corp.  
Pulp Mill Modifications  
Escambia County, PSD-FL-200

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If you have any questions, please contact Bruce Mitchell or Cleve Holladay at (904)488-1344 or write to me at the above address.

Sincerely,

*for* *Patricia G. Adams*  
C. H. Fancy, P.E.  
Chief  
Bureau of Air Regulation

CHF/pa

Enclosures

Meeting @ DER (R-357) @ Champion Int.

12-15-92

Bruce Mitchell	FDER/DARM/BAR	904-488-1344
Cleve Holladay	FDER/DARM/BAR	"
KYLE MOORE	CHAMPION	904-968-4253
Steve Webb	"	904-968-2121 X2498
PAUL JOHNSON	CHAMPION	904-968-2121
Charles Ayer	Champion	203-358-7117
John EGAN	WESTON	215-430-7263