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PS Form 3800, June 1991

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3. Article Addressed to:
F. Doug Owenby, VP, OTM
Champion Int'l Corp
375 Muscogee Rd
Cantonment, FL 32533

4a. Article Number
P 360 185 708

4b. Service Type
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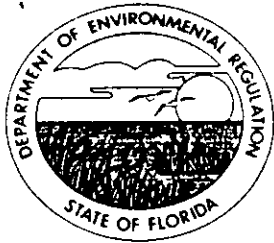
8. Addressee's Address (Only if requested and fee is paid)

5. Signature (Addressee)

6. Signature (Agent)
Katherine Owenby

PS Form 3811, December 1991 *U.S. GPO: 1992-323-402

DOMESTIC RETURN RECEIPT



Florida Department of Environmental Regulation

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

Lawton Chiles, Governor

Carol M. Browner, Secretary

February 25, 1993

CERTIFIED MAIL-RETURN RECEIPT REQUESTED

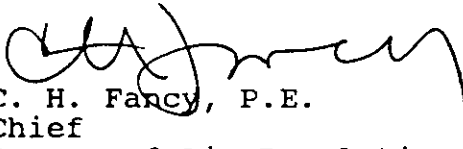
Mr. F. Doug Owenby
Vice President/Operations Manager
Champion International Corporation
375 Muscogee Road
Cantonment, Florida 32533

Dear Mr. Owenby:

Attached is one copy of the Technical Evaluation and Preliminary Determination and proposed permits to allow modifications to be made to the existing pulp mill in concert with the mill's wastewater Consent Order, including the construction of a new No. 6 Power Boiler, the modification of the existing Lime Kiln's mud handling system and the existing A and B Bleach Plants's operations, the construction of a new methanol storage tank, and the surrender of the operation permits for the existing Nos. 1 and 2 Power Boilers.

Please submit any written comments you wish to have considered concerning the Department's proposed action to Mr. Preston Lewis of the Bureau of Air Regulation.

Sincerely,


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

CHF/BM/rbm

Attachments

c: E. Middleswart, NWD
D. Smith, P.E., CE
J. Harper, EPA
J. Bunyak, NPS
J. Braswell, Esq., DER
G. Golson, ADEM
K. Moore, CIC

STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL REGULATION

CERTIFIED MAIL

In the Matter of
Applications for Permit by:

DER File Nos. AC 17-223343

PSD-FL-200

Escambia County

Champion International Corporation
375 Muscogee Road
Cantonment, FL 32533

INTENT TO ISSUE

The Department of Environmental Regulation gives notice of its intent to issue a permit (copies attached) for the proposed project as detailed in the applications specified above, for the reasons stated in the attached Technical Evaluation and Preliminary Determination.

The applicant, Champion International Corporation, applied on December 21, 1992, to the Department of Environmental Regulation for permits to be allowed to make modifications to the existing pulp mill in concert with the mill's wastewater Consent Order, including the construction of a new No. 6 Power Boiler, the modification of the existing Lime Kiln's mud handling system and the existing A and B Bleach Plants's operations, the construction of a new methanol storage tank, and the surrender of the operation permits for the existing Nos. 1 and 2 Power Boilers. The existing pulp mill is located at 375 Muscogee Road, Cantonment, Escambia County, Florida.

The Department has permitting jurisdiction under the provisions of Chapter 403, Florida Statutes (F.S.) and Florida Administrative Code (F.A.C.) Chapters 17-210 thru 17-297, and 17-4. The project is not exempt from permitting procedures. The Department has determined that a construction permit is required for the proposed work.

Pursuant to Section 403.815, F.S., and Rule 17-103.150, F.A.C., you (the applicant) are required to publish at your own expense the enclosed Notice of Intent to Issue Permits. The notice shall be published one time only within 30 days in the legal ad section of a newspaper of general circulation in the area affected. For the purpose of this rule, "publication in a newspaper of general circulation in the area affected" means publication in a newspaper meeting the requirements of Sections 50.011 and 50.031, F.S., in

the county where the activity is to take place. Where there is more than one newspaper of general circulation in the county, the newspaper used must be the one with significant circulation in the area that may be affected by the permitting action. If you are uncertain that a newspaper meets these requirements, please contact the Department at the address or telephone number listed below. The applicant shall provide proof of publication to the Department's Bureau of Air Regulation, 2600 Blair Stone Road, Tallahassee, Florida 32399-2400 (904-488-1344), within seven days of publication. Failure to publish the notice and provide proof of publication within the allotted time may result in the denial of the permit.

The Department will issue the permit with the attached conditions unless a petition for an administrative proceeding (hearing) is filed pursuant to the provisions of Section 120.57, F.S.

A person whose substantial interests are affected by the Department's proposed permitting decision may petition for an administrative proceeding (hearing) in accordance with Section 120.57, F.S. The petition must contain the information set forth below and must be filed (received) in the Office of General Counsel of the Department at 2600 Blair Stone Road, Tallahassee, Florida 32399-2400. Petitions filed by the permit applicant and the parties listed below must be filed within 14 days of receipt of this intent. Petitions filed by other persons must be filed within 14 days of publication of the public notice or within 14 days of their receipt of this intent, whichever first occurs. Petitioner shall mail a copy of the petition to the applicant at the address indicated above at the time of filing. Failure to file a petition within this time period shall constitute a waiver of any right such person may have to request an administrative determination (hearing) under Section 120.57, F.S.

The Petition shall contain the following information;

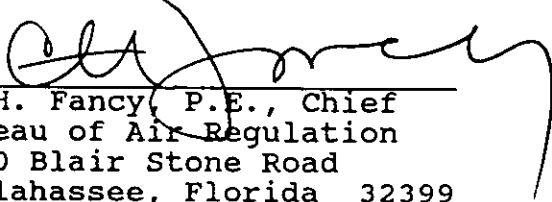
- (a) The name, address, and telephone number of each petitioner, the applicant's name and address, the Department Permit File Number and the county in which the project is proposed;
- (b) A statement of how and when each petitioner received notice of the Department's action or proposed action;
- (c) A statement of how each petitioner's substantial interests are affected by the Department's action or proposed action;
- (d) A statement of the material facts disputed by Petitioner, if any;
- (e) A statement of facts which petitioner contends warrant reversal or modification of the Department's action or proposed action;
- (f) A statement of which rules or statutes petitioner contends require reversal or modification of the Department's action or proposed action; and,

(g) A statement of the relief sought by petitioner, stating precisely the action petitioner wants the Department to take with respect to the Department's action or proposed action.

If a petition is filed, the administrative hearing process is designed to formulate agency action. Accordingly, the Department's final action may be different from the position taken by it in this intent. Persons whose substantial interests will be affected by any decision of the Department with regard to the applications have the right to petition to become a party to the proceedings. The petition must conform to the requirements specified above and be filed (received) within 14 days of receipt of this intent in the Office of General Counsel at the above address of the Department. Failure to petition within the allowed time frame constitutes a waiver of any right such person has to request a hearing under Section 120.57, F.S., and to participate as a party to this proceeding. Any subsequent intervention will only be at the approval of the presiding officer upon motion filed pursuant to Rule 28-5.207, F.A.C.

Executed in Tallahassee, Florida.

STATE OF FLORIDA DEPARTMENT
OF ENVIRONMENTAL REGULATION



C. H. Fancy, P.E., Chief
Bureau of Air Regulation
2600 Blair Stone Road
Tallahassee, Florida 32399
904-488-1344

cc: E. Middleswart, NWD
D. Smith, P.E., CE
J. Harper, EPA
J. Bunyak, NPS
J. Braswell, Esq., DER
G. Golson, ADEM
K. Moore, CIC

CERTIFICATE OF SERVICE

The undersigned duly designated deputy clerk hereby certifies that this INTENT TO ISSUE and all copies were mailed by certified mail before the close of business on 2-26-93 to the listed persons.

Clerk Stamp

FILING AND ACKNOWLEDGMENT

FILED, on this date, pursuant to §120.52(11), Florida Statutes, with the designated Department Clerk, receipt of which is hereby acknowledged.

Kim Jones

Clerk

2-26-93

Date

STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL REGULATION
NOTICE OF INTENT TO ISSUE PERMIT

Champion International Corporation

AC 17-223343

PSD-FL-200

The Department of Environmental Regulation gives notice of its intent to issue a permit to Champion International Corporation, 375 Muscogee Road, P. o. Box 87, Cantonment, Florida 32533, to allow modifications to be made to the existing pulp mill in concert with the mill's wastewater Consent Order, including the construction of a new No. 6 Power Boiler, the modification of the existing Lime Kiln's mud handling system and the existing A and B Bleach Plants's operations, the construction of a new methanol storage tank, and the surrender of the operation permits for the existing Nos. 1 and 2 Power Boilers. A determination of Best Available Control Technology (BACT) was required. The proposed project is subject to the Prevention of Signification Deterioration (PSD) regulations. Approximately 10 percent of the annual NOx PSD increment will be consumed. The Department is issuing this Intent to Issue for the reasons stated in the Technical Evaluation and Preliminary Determination.

A person whose substantial interests are affected by the Department's proposed permitting decision may petition for an administrative proceeding (hearing) in accordance with Section 120.57, Florida Statutes (F.S.). The petition must contain the information set forth below and must be filed (received) in the Office of General Counsel of the Department at 2600 Blair Stone Road, Tallahassee, Florida 32399-2400, within 14 days of publication of this notice. Petitioner shall mail a copy of the petition to the applicant at the address indicated above at the time of filing. Failure to file a petition within this time period shall constitute a waiver of any right such person may have to request an administrative determination (hearing) under Section 120.57, F.S.

The Petition shall contain the following information;

- (a) The name, address, and telephone number of each petitioner, the applicant's name and address, the Department Permit File Number and the county in which the project is proposed;
- (b) A statement of how and when each petitioner received notice of the Department's action or proposed action;
- (c) A statement of how each petitioner's substantial interests are affected by the Department's action or proposed action;
- (d) A statement of the material facts disputed by Petitioner, if any;

- (e) A statement of facts which petitioner contends warrant reversal or modification of the Department's action or proposed action;
- (f) A statement of which rules or statutes petitioner contends require reversal or modification of the Department's action or proposed action; and,
- (g) A statement of the relief sought by petitioner, stating precisely the action petitioner wants the Department to take with respect to the Department's action or proposed action.

If a petition is filed, the administrative hearing process is designed to formulate agency action. Accordingly, the Department's final action may be different from the position taken by it in this Notice. Persons whose substantial interests will be affected by any decision of the Department with regard to the applications have the right to petition to become a party to the proceeding. The petition must conform to the requirements specified above and be filed (received) within 14 days of publication of this notice in the Office of General Counsel at the above address of the Department. Failure to petition within the allowed time frame constitutes a waiver of any right such person has to request a hearing under Section 120.57, F.S., and to participate as a party to this proceeding. Any subsequent intervention will only be at the approval of the presiding officer upon motion filed pursuant to Rule 28-5.207, F.A.C.

The applications are available for public inspection during normal business hours, 8:00 a.m. to 5:00 p.m., Monday through Friday, except legal holidays, at:

Department of Environmental Regulation
Bureau of Air Regulation
2600 Blair Stone Road
Tallahassee, Florida 32399-2400

Department of Environmental Regulation
Northwest District
160 Government Center
Pensacola, Florida 32501-5794

Any person may send written comments on the proposed action to Mr. Preston Lewis at the Department's Tallahassee address. All comments received within 30 days of the publication of this notice will be considered in the Department's final determination. Further, a public hearing can be requested by any person. Such requests must be submitted within 30 days of this notice.

Technical Evaluation
and
Preliminary Determination

Champion International Corporation
Escambia County, Florida

Permit Numbers: AC 17-223343
PSD-FL-200

Department of Environmental Regulation
Division of Air Resources Management
Bureau of Air Regulation

February 25, 1993

I. Application

A. Applicant

Champion International Corporation
375 Muscogee Road
Cantonment, FL 32533

B. Project Description and Location

The applicant proposes to modify the existing pulp mill in concert with the mill's wastewater Consent Order, including the construction of a new No. 6 Power Boiler, the modification of the existing Lime Kiln's mud handling system and the existing A and B Bleach Plants's operations, the construction of a new methanol storage tank, and the surrender of the operation permits for the existing Nos. 1 and 2 Power Boilers. Also, the applicant stated that this activity will not result in a mill production increase, thereby eliminating the need to address actual emissions from other mill sources (source annual operation reports will be used to verify).

The existing facility is located in Escambia County, Florida. The UTM coordinates are Zone 17, 469.0 km East and 3,385.8 km North.

C. Process and Controls

1. General

The kraft cooking process is used to separate the lignin and wood fiber to produce brown pulp from wood chips (see Figure 2-3). After the wood chips have been cooked with an alkaline liquor in the batch digesters (hard wood) and the continuous digester (soft wood) and washed, the pulp is screened to separate rejects. The pulp is then further delignified in separate oxygen delignification reactors, washed, and sent to the A and B Bleach Plants, where it is reacted with various chemicals in a sequence for purification, brightening and viscosity control. Chemicals are added in retention towers, and reactants are removed in washers. After being bleached, the pulp is dried on the Nos. 3 and 5 Paper Machines and finished for customer specifications. Market pulp is dried on a pulp drying machine as bales or rolls for final sale.

2. Chemical Cooking

Improved delignification in the cooking processes is proposed for the soft wood chips, which are cooked in the continuous digester, by an extended modified continuous cooking. By adding cooking liquor at different stages and using different cooking conditions, the proposed process is expected to produce a pulp

which is easier to wash and, therefore, improving lignin extraction. The continuous digester system is a sealed system and its emissions are collected and transported to an incinerator system (i.e., lime kiln: primary; calciner: backup) for control. No increase in throughput should occur due to the proposed changes to the continuous digester system.

The project will include the installation of storage and handling equipment for anthraquinone (AQ), which is water soluble; and, therefore, Champion proposes to utilize a system designed for transporting and storing water-soluble anthraquinone. AQ is an organic catalyst which accelerates and increases the selectivity of the wood cooking chemicals in the delignification of the pulp fiber. It will be used in both the batch digester system and the continuous digester system for the purpose of reducing the organic loading, the color, and the conductivity in the bleach plant effluent.

It is believed that emissions from the digesters should not change following implementation of these new methods. Since feed rate to the digesters will not change, the material flow rate from the digesters to the brown stock washers will also be unchanged. No net change in black liquor solids to the recovery boilers is anticipated.

As is the continuous digester system, the batch digester system is a closed system and its emissions are collected and transported to an incinerator system (i.e., lime kiln or calciner) for control.

3. O₂ Delignification

The washed brown pulp from the cooking processes goes through further delignification in O₂ reactors on each line (i.e., soft wood and hard wood). If the proposed improvements in the digester cooking processes occur, then less fiber may be wasted, which could result in an increase in the fiber processed through the O₂ delignification systems. Since there could also be reduced levels of lignin in the brown pulp, the actual emissions from the pre- and post-O₂ washers and the O₂ blow tank are not expected to change, even if fiber throughput increases.

4. A and B Bleach Plants

The existing A and B Bleach Plants are identical and use a three stage bleaching sequence commonly referred to as CED (C: a chlorination stage with chlorine dioxide added; E: an oxidative caustic extraction stage; and, D: a final chlorine dioxide bleaching stage). The final bleaching sequence will be referred to as DED (see Figure 1).

The chlorine dioxide (ClO_2) is manufactured on site in a chemical generator employing the R3H process, which reacts salt, sulfuric acid, hydrochloric acid, and sodium chlorate to form a chlorine dioxide/chlorine gas mixture that is absorbed in chilled water and stored in storage tanks for use by both plants.

There are five vent sources associated with the ClO_2 generator, which includes a tail gas scrubber using a sodium hydroxide media to control ClO_2 , two ClO_2 storage tanks using chilled water scrubbers to control ClO_2 , and two salt unloading/pneumatic transfer systems using separate water spray towers to control particulate emissions.

The proposal will eliminate the existing chlorine gas handling system, add a hydrogen peroxide handling system, add a methanol storage tank, and modify the ClO_2 generator. In addition, enzymes (i.e., xylanase) may be added to the high density storage tanks between the oxygen delignification systems and the bleach plants.

The mill will eliminate the use of molecular chlorine as a bleaching agent, and the first stage of each plant will be 100% ClO_2 , which will require a modification to the existing ClO_2 generator. The generator will be modified to an R8/R10 process (see Figure 2), which uses methanol, sulfuric acid, and sodium chlorate to generate ClO_2 . The modified reactor's capacity will be increased from 16 tons per day to 37.4 tons per day of ClO_2 . A third ClO_2 storage tank will be installed and the existing chlorine absorption towers will be converted to ClO_2 absorption towers.

The storage tank scrubbers will continue to vent the existing two tanks and will also vent the new storage tank. The exhaust from the two tank vent scrubbers will be directed to the tail gas scrubber. The tail gas scrubber will be modified by installing an extra 10 feet of tower and the scrubbing media will be changed from sodium hydroxide to white liquor (sodium hydroxide plus sodium sulfide).

A hydrogen peroxide storage and handling system will be installed. Hydrogen peroxide is an oxidizing agent that works optimally in alkaline conditions and is typically applied to the pulp in a 50% solution. The peroxide is applied in the oxidative extraction stage and is completely reacted. There are no emissions associated with the use of hydrogen peroxide.

The proposal to use the enzyme, xylanase, as a bleach boosting technique is not completely proven. By adding the enzyme prior to pulp bleaching, it is hoped that it will modify the chemical structure to make subsequent bleach stages more efficient and resulting in fewer non-desirable by-products, improved process yields, and significant reductions in ClO_2 required to bleach pulp. Installation of enzyme storage and handling facilities will be

required. Since enzymes are water soluble, there will be no air emissions associated with these systems.

A new 21,880 gallon methanol storage tank will be installed. The tank will be nitrogen blanketed and equipped with a conservation vent.

The existing salt unloading and handling system will be shut down and dismantled.

The existing bleach plant scrubbers are equally effective for Cl_2 and ClO_2 removal, and the scrubber systems have adequate capacity for the expected emissions. Therefore, no changes are planned for these scrubber systems.

5. Evaporators

Additional loading (i.e., ~ 50%) is expected on the No. 2 Multiple Effect Evaporator (MEE) system by the processing of reclaimed sewer effluent. This will be accomplished by the addition of two new evaporator effects to the existing No. 2 MEE system. Although the color and B.O.D. reclaimed represents a significant portion of the wastewater load, the associated solids contribution to the chemical recovery system is insignificant. Therefore, the recovery boilers and associated equipment are not impacted.

6. Foul Condensate Stripper System

An upgrade of the existing contaminated condensate stripper and the installation of an additional steam stripper is planned. With added stripper capacity, initial estimates have shown that the mill effluent B.O.D. load to the wastewater treatment plant could be reduced by as much as 15%. Since a steam stripper directly reduces volatile organic compounds (VOCs) released from the digester steam after the cooking of wood chips, this will decrease the amount of VOCs previously released to the wastewater treatment system. The existing emissions, as well as the new emissions, from the condensate stripper system will be collected and transported to an incinerator (i.e., lime kiln) for control.

7. Lime Kiln-Mud Dryer

The lime kiln and calciner cannot process all of the lime mud produced by the causticizing system, thus discharging the excess mud to the sewer in a weak wash solution. This sewered lime mud with settled mill sludge is collected and landfilled from decanting basins, with the resulting weak wash alkaline solution requiring neutralization using CO_2 injection. The alkaline solution does increase mill effluent conductivity.

The proposal will add a lime mud dryer system (see Figure 3) in order to eliminate the sewerage of the excess lime mud in weak wash solution from the causticizing process, reduce landfilling requirements, and reduce conductivity by about 20%.

The upgrade will increase the capacity to 500 tons of CaO per day. A new multifield electrostatic precipitator will be installed between the lime kiln and the existing caustic scrubber will be modified to provide SO₂ scrubbing capability (the packed column will utilize recirculating NaOH as the scrubbing medium). A minimum pH of 8.0 will be maintained.

A slight increase in non-condensable gases (i.e., total reduced sulfur compounds) will be burned in the lime kiln, resulting in an increase in SO₂ emissions. These SO₂ emissions will be subjected to the lime mud in the lime kiln and a caustic scrubber system. Projected emissions are not significant. A performance test will be required to substantiate this.

8. New No. 6 Power Boiler

Added steam capacity will be required to support the proposed process modifications. The specific added steam demand will come from an increase in evaporation and contaminated condensate stripping capacity, black liquor heaters, the cooking modifications, and bleach plant load reduction technologies.

The new No. 6 Power Boiler will be permitted to fire only natural gas as a fuel, with a maximum heat input of 533 MMBtu/hr. The new boiler will permit the retirement of the existing Nos. 1 and 2 Power Boilers. The new boiler will provide 350,000 pounds per hour of steam product.

D. The Standard Industrial Codes are:

Major Group No. 26 - Paper and Allied Products
Industry Group No. 2611 - Pulp Mills

II. Rule Applicability

The proposed project is subject to preconstruction review in accordance with Chapter 403, Florida Statutes; Florida Administrative Code (F.A.C.) Chapters 17-210 thru 17-297, and 17-4; and, the 40 CFR (July, 1991 version).

The application package was deemed complete on January 20, 1993.

The plant is located in an area designated as attainment for all pollutants in accordance with F.A.C. Rule 17-275.400.

The existing mill is a major emitting facility in accordance with F.A.C. Rule 17-212.200, Definitions, for the pollutants particulate matter (PM/PM10), sulfur dioxide (SO₂), nitrogen oxides (NO_x), carbon monoxide (CO), TRS, and volatile organic compounds (VOCs).

The proposed mill modification will result in a net significant increase for the pollutants NO_x, CO and VOCs (see Tables 1 & 2), thus requiring new source review for Prevention of Significant Deterioration (PSD) in accordance with F.A.C. Rule 17-212.400. This review consists of a determination of Best Available Control Technology (BACT) pursuant to F.A.C. Rule 17-212.410 and an analysis of the air quality impact of the increased emissions. The review also includes an analysis of the project's impacts on soils, vegetation and visibility, along with air quality impacts resulting from associated commercial, residential and industrial growth.

The proposed new sources and modified sources shall be in compliance with all applicable provisions of F.A.C. Chapters 17-210 thru 17-297 and 17-4; and, the 40 CFR (July, 1991 version). The proposed source shall be in compliance with all applicable provisions of F.A.C. Rules 17-210.650: Circumvention; 17-210.700: Excess Emissions; 17-296.800: Standards of Performance for New Stationary Sources (NSPS); 17-297: Stationary Point Source Emission Test Procedures; and, 17-4.130: Plant Operation-Problems.

This proposed new No. 6 Power Boiler shall be in compliance with the NSPS for Industrial Steam Generating Units, 40 CFR 60, Subpart Db, and BACT.

The new methanol storage tank shall be in compliance with the NSPS for Storage Vessels for Petroleum Liquids, 40 CFR 60, Subpart Kb.

As a first tier level of review, the pollutants chlorine, chlorine dioxide, and chloroform, were evaluated with considerations given to carcinogenicity and toxicity using risk assessment guidelines. Through these considerations, initial property line acceptable ambient concentrations were established for each pollutant along with the appropriate averaging times.

Since neither State nor Federal ambient standards for chlorine, chlorine dioxide, and chloroform have yet been adopted, post-modification performance tests will be required to quantify the emissions, which might result in additional rule evaluation requirements.

III. Emission Limitations and Impact Analysis

A. Emission Limitations

The proposed project is subject to emission limitations for the pollutants NO_x, SO₂, CO, VOC, TRS, and PM/PM₁₀. Applicable visible emission (VE) standards will also be imposed. The following table will reflect the allowable emission standards/limitations:

Table A

Source	Pollutant	Allowable Emission Standard/Limitation
1. No. 6 Power Boiler:		maximum 533 MMBtu/hr heat input
	NO _x	0.06 lb/MMBtu (32.0 lbs/hr, 140.1 TPY)
	CO	0.1 lb/MMBtu (53.3 lbs/hr, 233.5 TPY)
	PM/PM ₁₀	2.67 lbs/hr, 11.7 TPY
	SO ₂	Not Applicable: Natural gas usage (for PSD tracking purposes: 2.2 TPY projected potential emissions)
	VOC	0.01 lb/MMBtu (5.33 lbs/hr, 23.4 TPY)
	VE	≤ 20 % opacity (6-min avg), except for one 6-min period/hr @ ≤ 27% opacity
2. Lime Kiln-Mud Dryer System:		maximum 500 TPD CaO; 34,383 dscfm
	NO _x	No. 6 fuel oil: 200 ppmvd @ 10% O ₂ (49.3 lbs/hr, 215.9 TPY) Natural Gas: 175 ppmvd @ 10% O ₂ (43.1 lbs/hr, 188.8 TPY)
	PM/PM ₁₀	10.9 lbs/hr, 47.7 TPY
	CO	45 ppmvd @ 10% O ₂ (6.75 lbs/hr, 29.6 TPY)
	VOC	104 ppmvd @ 10% O ₂ (as propane) (24.5 lbs/hr, 107.3 TPY)
	TRS	8 ppmvd @ 10% O ₂ (1.46 lbs/hr, 6.4 TPY)
	SO ₂	6.49 lbs/hr, 28.4 TPY
	VE	< 20% opacity
3. A-Line Bleach Plant		
a. E _o Washer	CHCl ₃	0.038 lb/hr, 0.16 TPY
b. Tail Gas Scrubber	CL ₂	1.45 lbs/hr, 6.4 TPY
	ClO ₂	0.45 lb/hr, 2.0 TPY
	CHCl ₃	0.34 lb/hr, 1.5 TPY
4. B-Line Bleach Plant		
a. E _o Washer	CHCl ₃	0.038 lb/hr, 0.16 TPY
b. Tail Gas Scrubber	Cl ₂	1.45 lbs/hr, 6.4 TPY
	ClO ₂	0.45 lb/hr, 2.0 TPY
	CHCl ₃	0.34 lb/hr, 1.5 TPY

Table A cont.

5. R8/R10 ClO₂ Generator: 37.6 TPD
 Tail Gas Scrubber

Cl ₂	0.1 lb/hr, 0.44 TPY
ClO ₂	0.25 lb/hr, 1.1 TPY

6. Methanol Storage Tank: 21,880 gallons - horizontal fixed roof
 VOC Not Applicable (for PSD tracking purposes:
 2.2 TPY projected potential emissions)

NOTE:

1. Natural gas usage only in the No. 6 PB.
3. Hours of operation at 8760 per year.
3. Maximum heat input:
 - a. No. 6 PB: 533 MMBtu/hr.
 - b. Lime kiln: 150 MMBtu/hr.
4. Steam production:
 - a. No. 6 PB: 350,000 pounds per hour.
5. Pollutant basis: #6 PB and Lime Kiln-Mud Dryer
 - a. NOx: BACT
 - b. CO: BACT
 - c. PM/PM₁₀: #6 PB: vendor guarantee of 0.037 gr/dscf
 LK-MD: AP-42 Emission Factors, Table 1.4-1
 - d. VOC: BACT (basis: 750 ADTP/day each hard and soft wood)
6. The maximum sulfur content of the No. 6 Fuel Oil is 1.0%, by weight.

The following table will present the initial property line acceptable ambient concentrations and their averaging times for chloroform, chlorine, and chlorine dioxide:

Table B

Chemical	Acceptable Ambient Conc.	Averaging Time
1. Chloroform	0.043 ug/m ³	annual
2. Chlorine	15.0 ug/m ³ (5 ppb)	8-hour
	3.57 ug/m ³ (1.2 ppb)	24-hour
3. Chlorine Dioxide	3.0 ug/m ³ (1 ppb)	8-hour
	0.71 ug/m ³ (0.24 ppb)	24-hour

Note:

1. Since chloroform is a carcinogen with an EPA unit risk value (a measure of its carcinogenic potency) and the facility will continuously emit this chemical, the initial acceptable ambient concentration is based on providing protection from the long-term exposure to chloroform. The level of protection, that corresponds to a one-in-a-million increased risk of developing cancer from continuous exposure to chloroform, is

calculated by dividing $1.0E-6$ by $2.3E-5$ (the unit risk factor for chloroform). The resulting quotient (0.043 ug/m^3) is the initial acceptable ambient concentration. Since the health concern is for long-term exposure (and the unit risk factor reflects a 70-year exposure), the averaging time should be on an annual basis.

2. Chlorine is not a carcinogen, but has an occupational exposure level (TLV) of 0.5 ppm (1.5 mg/m^3). The initial acceptable ambient concentration is based on providing two orders of magnitude below the occupational level. The two orders of magnitude represent protection for the differences between healthy workers and the more sensitive public, and the public's potential exposure to multiple chemicals, which may exert synergistic effects, or may produce exposures through other environmental media.

The first ambient guideline is based on an 8-hour average concentration, as is the occupational exposure level. An additional protection factor which takes into account the public's continuous exposure, compared to a worker's exposure, which ceases in 8 hours, is provided by the longer-term 24-hour guideline. For the 24-hour guideline, the 8-hour guideline is divided by 4.2, which is the ratio between a 168-hour week of public exposure to a continuous emission and a worker's exposure to 40 hours of the toxic. The 24-hour guideline does not need to be used for batch operations or processes which operate for less than 8 hours. If a process can pass the 8-hour ambient guideline and does not operate more than 8 hours, then its average ambient concentration for 24 hours will be well below the 24-hour guideline.

3. The initial acceptable ambient concentration for chlorine dioxide* is derived by the same methodology as was used for chlorine. The occupational exposure level is 0.3 mg/m^3 (0.1 ppm). Dividing the TLV by 100 gives the 8-hour acceptable ambient concentration, and dividing the TLV by 420 gives the 24-hour concentration.

* Facility representatives indicated that chlorine dioxide is very reactive and rapidly breaks down to chlorine in the atmosphere. Therefore, an acceptable ambient concentration guideline may not be appropriate for chlorine dioxide.

4. Testing will be required to verify the emissions from all sources.

B. Air Quality Impact Analysis

1. Introduction

The proposed No.6 Power Boiler and the modification of the Lime Kiln-Mud Dryer will emit three pollutants in PSD-significant

amounts. These pollutants include the criteria pollutants carbon monoxide (CO), nitrogen oxides (NOx), and ozone (O3) (as volatile organic compounds). (see Table 1)

The air quality impact analysis required by the PSD regulations for these pollutants includes:

- * An analysis of existing air quality;
- * A PSD increment analysis (for NO2);
- * An Ambient Air Quality Standards (AAQS) analysis;
- * An analysis of impacts on soils, vegetation, and visibility and of growth-related air quality impacts; and,
- * A "Good Engineering Practice" (GEP) stack height determination.

The analysis of existing air quality generally relies on preconstruction monitoring data collected with EPA-approved methods. The PSD increment and AAQS analysis depends on air quality dispersion modeling carried out in accordance with EPA guidelines.

Based on the required analyses, the Department has reasonable assurance that the proposed mill modification, as described in this report and subject to the conditions of approval proposed herein, will not cause or contribute to a violation of any ambient air quality standard or PSD increment. A discussion of the modeling methodology and required analysis follows.

2. Analysis of Existing Air Quality

Preconstruction ambient air quality monitoring is required for all pollutants subject to PSD review.

An exemption to the monitoring requirement can be obtained if the maximum air quality impact, as determined by air quality modeling, is less than a pollutant-specific "de minimus" concentration.

The predicted ambient impact of the the proposed project for those pollutants subject to the PSD review is listed in Table 2.

The predicted maximum impacts for CO and NO2 are less than their respective de minimus impact levels. Therefore, no additional monitoring is required for these pollutants.

Preconstruction monitoring review is not required for ozone concentrations either, because the maximum potential VOC emissions from the proposed plant are less than 100 TPY.

However, a background NO2 concentration of 22.5 ug/m3 annual average was developed by the Department for use in the ambient air quality analysis. This value was based on data from sites in

Jacksonville and Tarpon Springs both about equally distant from Champion. There were no quality assured NO₂ monitoring sites in the Pensacola area.

3. Modeling Methodology

The modeling analysis included both screening and refined EPA-approved models. Screening models were used to determine the "worst case" loaded conditions associated with the No.6 Power Boiler and to evaluate the No.6 Power Boiler and Lime Kiln-Mud Dryer impacts due to CO emissions. The EPA-approved Industrial Source Complex Long-Term (ISCLT2) dispersion model was used to evaluate NO₂ impacts. All recommended EPA default options were used. Direction-specific downwash parameters were used because the stacks were less than the GEP stack height.

Meteorological data used in the modeling consisted of five years (1985-1989) of hourly surface and upper air meteorological data taken at Pensacola, Florida. These data were input into the National Climatic Data Center (NCDC) stability array (STAR) preprocessor program for use as input to the ISCLT2 model. The STAR program converts the hourly data into the joint frequency of occurrence of wind direction, wind speed, and atmospheric stability. The STAR program can produce monthly, seasonal and annual stability arrays of input into ISCLT2.

The highest predicted yearly impact from the proposed NO_x emissions was compared with the standards.

4. Modeling Results

The applicant performed screening modeling to determine the "worst case" load conditions for the proposed boiler. The worst case ambient impacts were predicted to occur during the 100% load condition. Based on the results above, all refined modeling included the 100% load emission parameters and emission rates for the No.6 Power Boiler.

The Screening model was also used to demonstrate that the CO impacts from the No.6 Power Boiler and the modification to the Lime Kiln were below the 1-hour and 8-hour significance levels of 2,000 ug/m³ and 500 ug/m³, respectively. The maximum combined impact from these two sources was 413.7 ug/m³ on a 1-hour basis. The 8-hour impact was 289.6 ug/m³. Therefore, since the proposed mill modification will not result in a significant ambient CO air quality impact, no further air quality modeling for CO is required. The proposed facility is located in a Class II area. The applicant evaluated the potential increases in ambient ground-level concentrations associated with the project and determined that the maximum projected ambient concentration increase would be greater than the PSD significant level for NO₂,

thus requiring the applicant to perform a full impact analysis for NO₂. The significant impact area was determined to be 2.4 km and an emissions inventory for NO_x sources was developed for the Champion mill and other major sources.

A combination of polar coordinate receptors and rectangular coordinate receptors was established for the ISCLT2 modeling. The polar grid was centered on the location of the No.5 Boiler stack. The following downwind receptor rings for every 10 degrees of arc from 0 degrees to 360 degrees were included: 4250m, 4500m, 4750m, 5000m, 6000m, 7000m, 8000m, and 10,000m. Due to the narrow boundary of Champion's property, an extensive network of discrete receptors along the boundary was used to supplement the polar grid. Since the polar receptor grid was centered on the No.5 Boiler, additional discrete receptors were required to adequately fill in the area between the property and the start of the grid. These additional receptors included points at 100m spacing out to 1000m and 250m spacing from 1000m to 4500m where the full polar grid started. Receptors were also placed at approximately 100m intervals along the perimeter of the facility boundary.

Atmospheric dispersion modeling, as previously described, was performed to quantify the amount of PSD increment consumed. The modeling results are summarized in Table 3. Based on these modeling results, the impacts from the proposed facility will not violate any of the Class II increments.

No PSD Class I increment analysis was done since the project is located more than 160 km from the nearest Class I area.

For the pollutants subject to an AAQS review, the total impact on ambient air is obtained by adding a "background" concentration to the maximum modeled concentration. This "background" concentration takes into account all sources of a particular pollutant that are not explicitly modeled. The "background" concentrations are taken from areas that are much more industrialized than the proposed facilities location. Therefore, these background values are considered to be conservative. A background NO₂ concentration of 22.5 ug/m³ annual average was developed by the Department based on the data from sites in Jacksonville and Tarpon Springs.

Given existing air quality in the area of the proposed facility, emissions from the proposed facility are not expected to cause or contribute to a violation of an AAQS. The results of the AAQS analysis are summarized in Table 4.

There is currently no acceptable method to model VOCs for ozone formation. Consequently, the control of the VOC emissions are addressed in the BACT review.

Chlorine, chlorine dioxides, and chloroform do not have an AAQS. However, these pollutants were modeled and the results were compared to the Department's air toxics reference concentrations. Table 5 summarizes the results of this analysis. The predicted concentrations for each of these pollutants is less than their respective reference concentrations.

5. Additional Impacts Analysis

a. Impacts on Soils and Vegetation

The maximum ground-level concentration predicted to occur for each pollutant as a result of the proposed project, including a background concentration, will be below the applicable AAQS including the national secondary standards developed to protect public welfare-related values. As such, this project is not expected to have a harmful impact on soils and vegetation.

b. Impact on Visibility

The mill modifications are estimated to result in a decrease in annual particulate matter emissions and an increase of less than 28 tons of SO₂. Hence, it is not anticipated that any perceptible reduction in visibility will occur due to the emission of primary or secondary aerosols by the proposed mill modification. And the ambient ground level concentration of nitrogen oxides (in the form of NO₂) is anticipated to decrease due to the shutdown and removal of the No.1 and No.2 Power Boilers. Hence, visibility impairment should not occur.

c. Growth-Related Air Quality Impacts

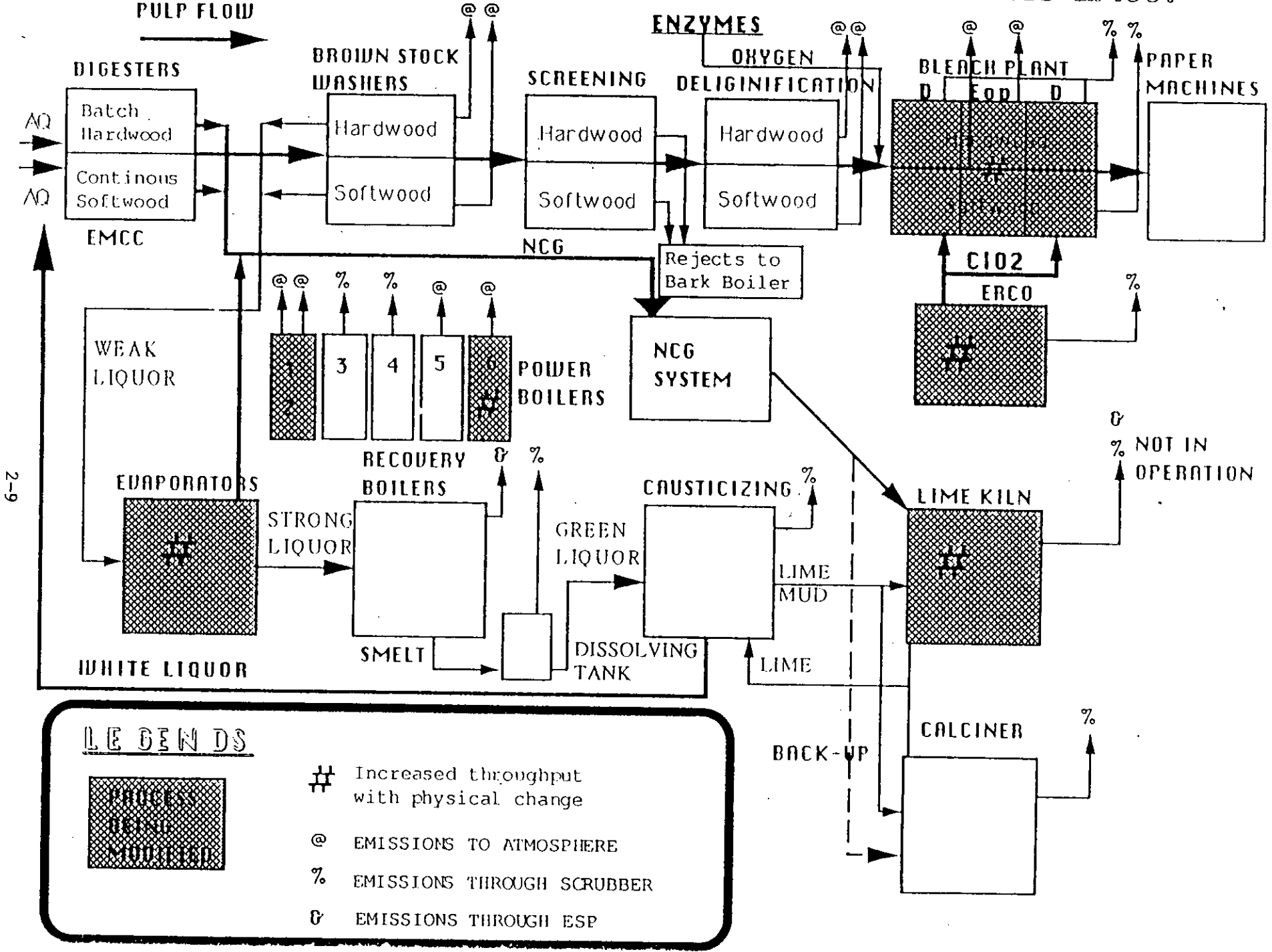
The proposed facility is not expected to significantly change employment, population, housing or commercial or industrial development in the area to the extent that an air quality impact will result.

IV. CONCLUSION

Based on the information provided by Champion International Corporation, the Department has reasonable assurance that the proposed mill modification, as described in this evaluation, and subject to the conditions proposed herein, will not cause or contribute to a violation of any air quality standard, PSD increment, or any other technical provision of Chapters 17-210 thru 17-297 of the Florida Administrative Code.

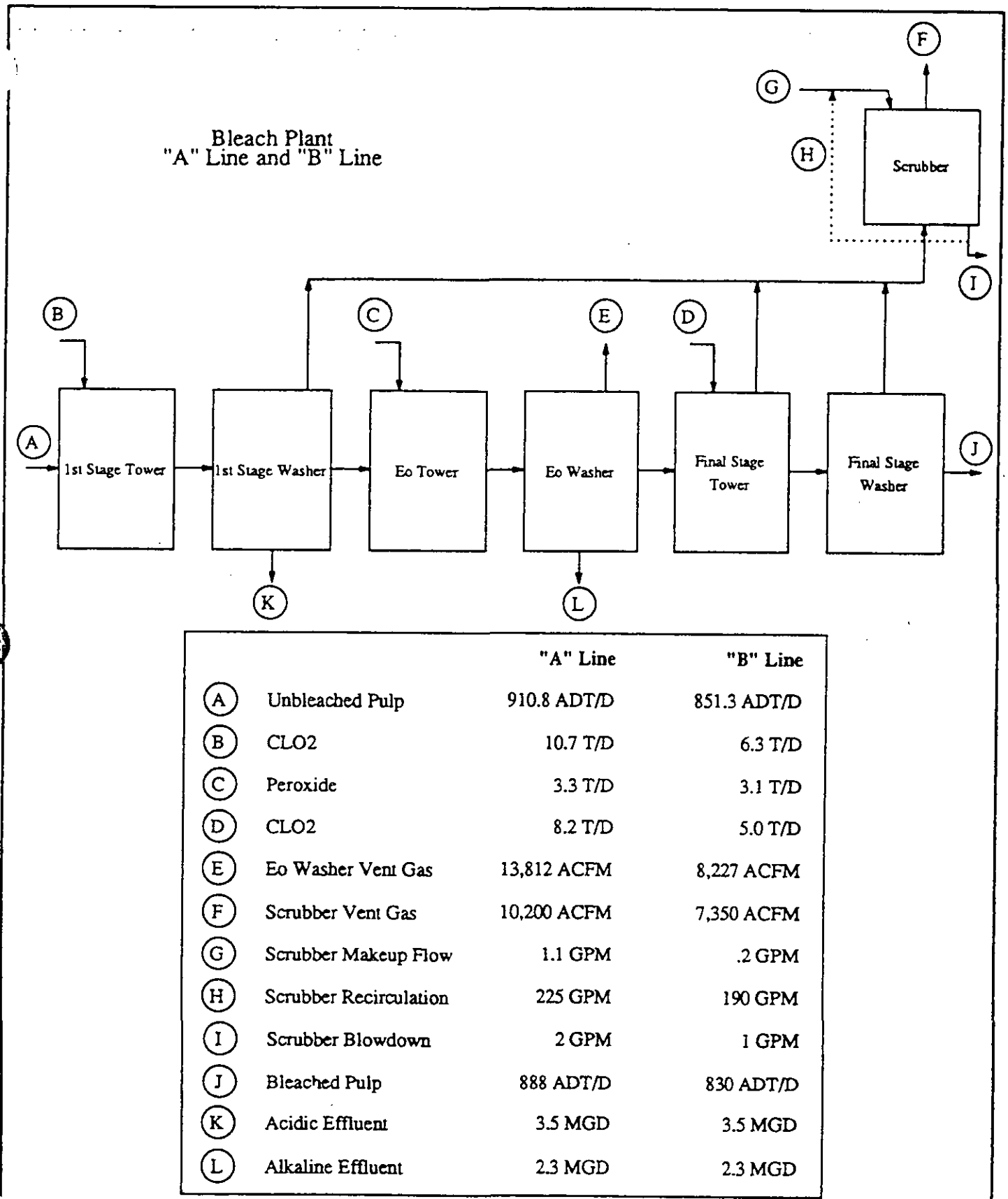
J. [Signature]
#41755

FIGURE 2-3: CONSENT ORDER AIR PERMITTING PLAN - MILL LAYOUT



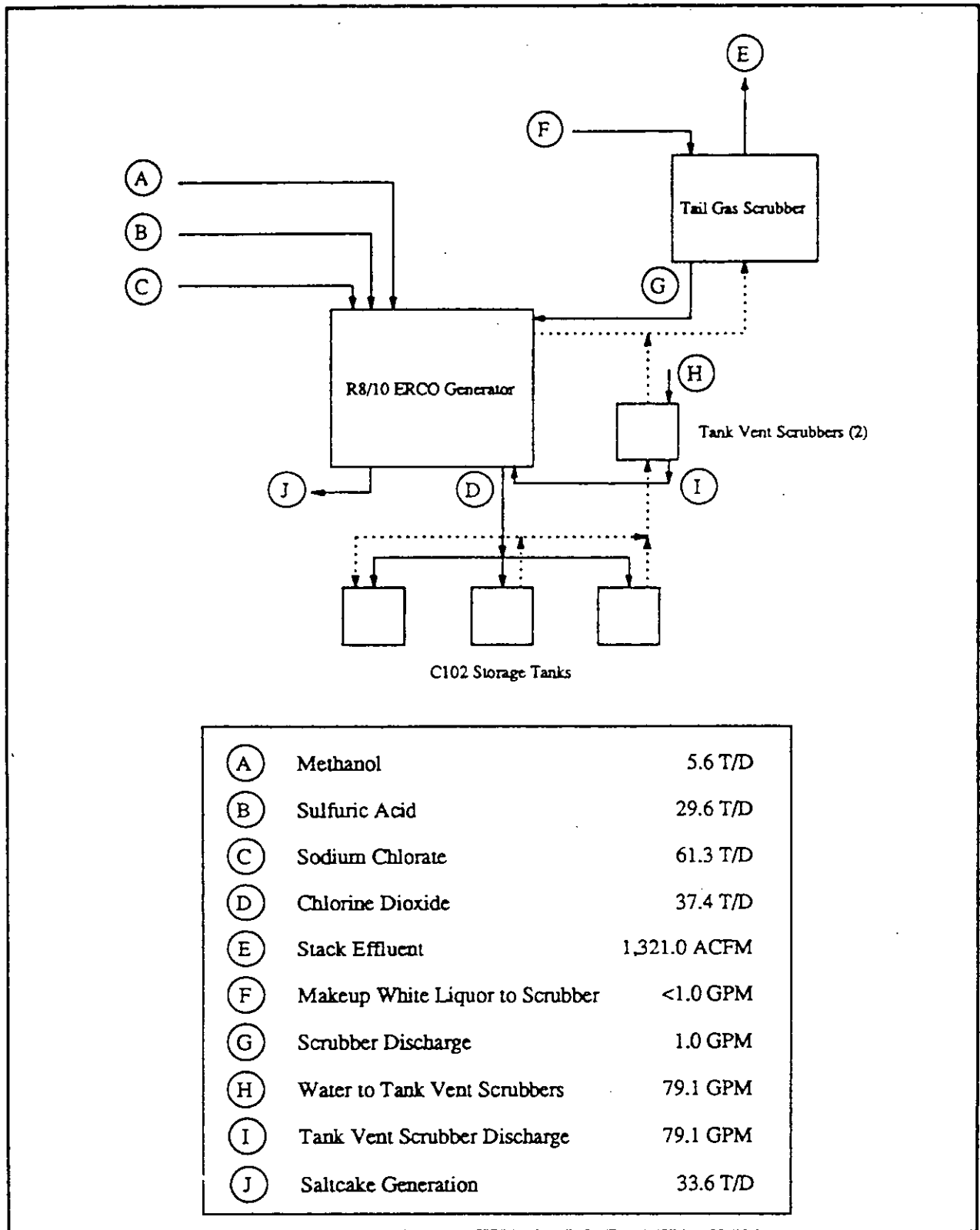
2-9

Figure 1



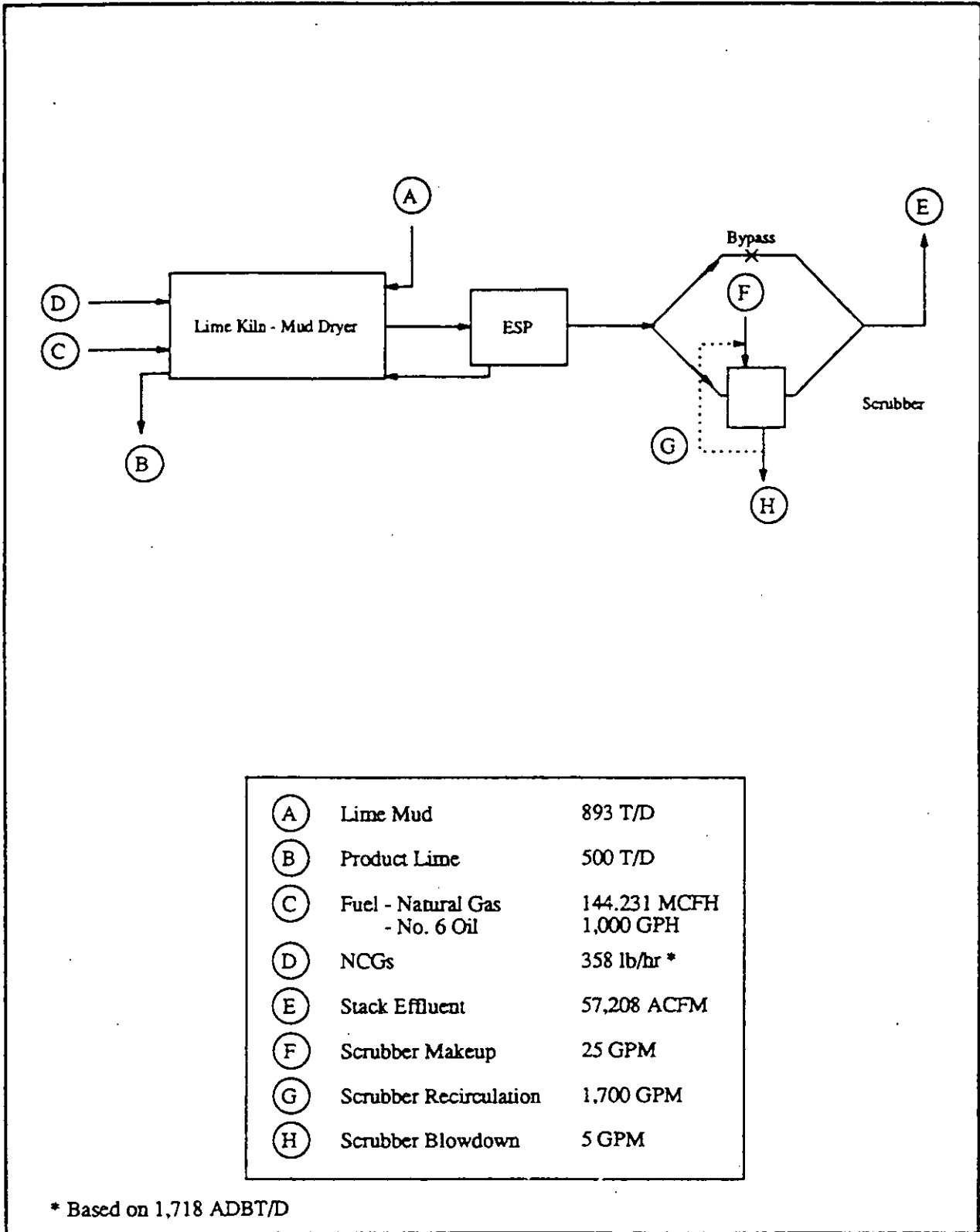
Process Flow Diagram 4
Bleach Plant

Figure 2



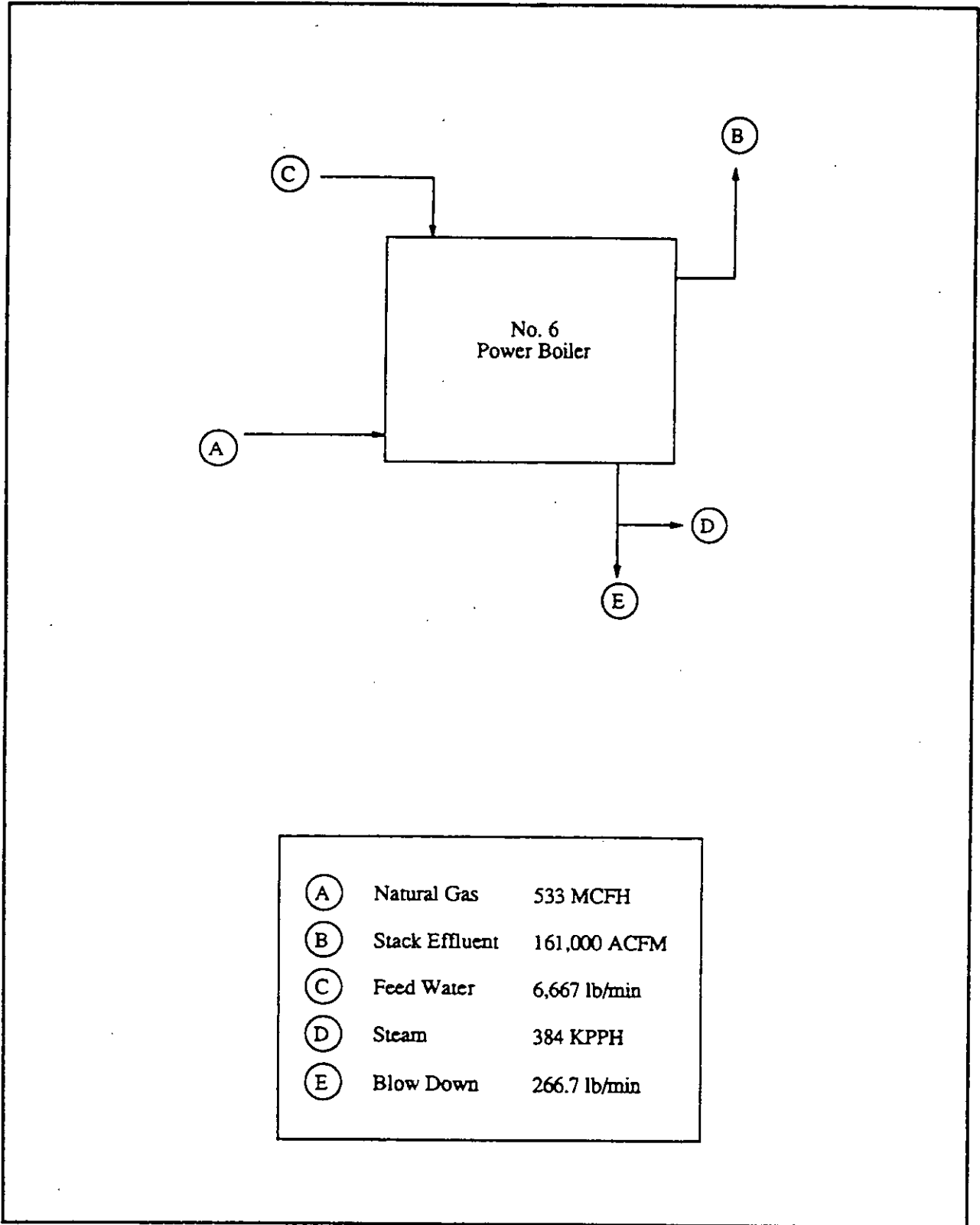
Process Flow Diagram 3
Chlorine Dioxide Generator

Figure 3



Process Flow Diagram 2
Lime Kiln - Mud Dryer

Figure 4



Process Flow Diagram 1
No. 6 Power Boiler

Table 1: Significant and Net Emission Rates (Tons per Year)

Pollutant	Significant Emission Rate	Proposed Net Emissions	Applicable Pollutant (Yes/No)
CO	100	189	Yes
NO _x	40	138.8	Yes
SO ₂	40	27.4	No
PM	25	-1.3	No
PM10	15	-1.3	No
O ₃ (VOC)	40	85.5	Yes
TRS	10	-1.9	No

Table 2. Maximum Air Quality Impacts for Comparison to the Significant and De Minimus Ambient Levels.

Pollutant	Avg. Time	Predicted Impact (ug/m ³)	Significant Impact Level (ug/m ³)	De Minimus Level (ug/m ³)
CO	1-hour	413.7	2000.0	N/A
	8-hour	289.6	500.0	575.0
NO ₂	Annual	2.4	1.0	14.0
VOC	Annual	85.5 TPY	N/A	100 TPY

Table 3. PSD Class II Increment Analysis

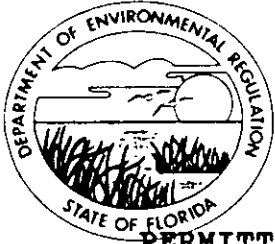
Pollutant	Averaging Time	Max. Predicted Impact (ug/m ³)	Allowable Increment (ug/m ³)
NO ₂	Annual	2.4	25

Table 4. Ambient Air Quality Impact

Pollutant and Averaging Time	Major Sources Impact (ug/m ³)	Background Conc. (ug/m ³)	Total Impact (ug/m ³)	Florida AAQS (ug/m ³)
NO ₂ (Annual)	42.0	22.5	64.5	100

Table 5. Air Toxics Analysis

Pollutant	Averaging Time	Max. Predicted Impact (ug/m ³)	Air Toxics Reference Conc. (ug/m ³)
Chloroform	Annual	0.026	0.043
Chlorine Dioxide	Annual	0.198	0.20
Chlorine	Annual	0.0384	0.40



Florida Department of Environmental Regulation

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

Lawton Chiles, Governor

Virginia B. Wetherell, Secretary

PERMITTEE:

**Champion International
Corporation
375 Muscogee Road
Cantonment, FL 32533**

**Permit Number: AC 17-223343
PSD-FL-200**

Expiration Date: Dec. 31, 1995

County: Escambia

**Latitude/Longitude: 30°36'30"N
87°19'13"W**

Project: Mill Modification

This permit is issued under the provisions of Chapter 403, Florida Statutes; Florida Administrative Code (F.A.C.) Chapters 17-210 thru 17-297 and 17-4; and, 40 CFR (July, 1991 version). The above named permittee is hereby authorized to perform the work or operate the facility shown on the application and approved drawings, plans, and other documents attached hereto or on file with the Department and made a part hereof and specifically described as follows:

For the permitting of a mill modification in concert with the mill's wastewater Consent Order, to include the construction of a new natural gas fired No. 6 Power Boiler (PB), the surrendering of the operation permits for the existing Nos. 1 and 2 Power Boilers, modification to both the A and B Bleach Plants, construction of a new methanol storage tank, and modification of the Lime Kiln's mud handling system. The UTM coordinates of the existing facility are Zone 17, 469.0 km East and 3386.0 km North.

The Standard Industrial Codes are:

- o Major Group No. 26 - Paper and Allied Products
- o Industry Group No. 2611 - Pulp Mills

The facility shall be constructed/modified in accordance with the permit application, plans, documents, amendments and drawings, except as otherwise noted in the General and Specific Conditions.

Attachments to be Incorporated:

1. Application to Construct/Modify Air Pollution Sources, DER Form 17-1.202(1), received December 21, 1992.
2. Technical Evaluation and Preliminary Determination dated February 25, 1993.

PERMITTEE:

Permit Number: AC 17-223343
PSD-FL-200

Champion International Corp. Expiration Date: Dec. 31, 1995

GENERAL CONDITIONS:

1. The terms, conditions, requirements, limitations, and restrictions set forth in this permit are "Permit Conditions" and are binding and enforceable pursuant to Sections 403.161, 403.727, or 403.859 through 403.861, F.S. The permittee is placed on notice that the Department will review this permit periodically and may initiate enforcement action for any violation of these conditions.
2. This permit is valid only for the specific processes and operations applied for and indicated in the approved drawings or exhibits. Any unauthorized deviation from the approved drawings, exhibits, specifications, or conditions of this permit may constitute grounds for revocation and enforcement action by the Department.
3. As provided in Subsections 403.087(6) and 403.722(5), F.S., the issuance of this permit does not convey any vested rights or any exclusive privileges. Neither does it authorize any injury to public or private property or any invasion of personal rights, nor any infringement of federal, state or local laws or regulations. This permit is not a waiver of or approval of any other Department permit that may be required for other aspects of the total project which are not addressed in the permit.
4. This permit conveys no title to land or water, does not constitute State recognition or acknowledgement of title, and does not constitute authority for the use of submerged lands unless herein provided and the necessary title or leasehold interests have been obtained from the State. Only the Trustees of the Internal Improvement Trust Fund may express State opinion as to title.
5. This permit does not relieve the permittee from liability for harm or injury to human health or welfare, animal, or plant life, or property caused by the construction or operation of this permitted source, or from penalties therefore; nor does it allow the permittee to cause pollution in contravention of F.S. and Department rules, unless specifically authorized by an order from the Department.
6. The permittee shall properly operate and maintain the facility and systems of treatment and control (and related appurtenances) that are installed or used by the permittee to achieve compliance with the conditions of this permit, as required by Department rules. This provision includes the operation of backup or auxiliary facilities or similar systems when necessary to achieve compliance with the conditions of the permit and when required by Department rules.

PERMITTEE:

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PSD-FL-200**

Champion International Corp. Expiration Date: Dec. 31, 1995

GENERAL CONDITIONS:

7. The permittee, by accepting this permit, specifically agrees to allow authorized Department personnel, upon presentation of credentials or other documents as may be required by law and at a reasonable time, access to the premises, where the permitted activity is located or conducted to:

- a. Have access to and copy any records that must be kept under the conditions of the permit;
- b. Inspect the facility, equipment, practices, or operations regulated or required under this permit; and,
- c. Sample or monitor any substances or parameters at any location reasonably necessary to assure compliance with this permit or Department rules.

Reasonable time may depend on the nature of the concern being investigated.

8. If, for any reason, the permittee does not comply with or will be unable to comply with any condition or limitation specified in this permit, the permittee shall immediately provide the Department with the following information:

- a. a description of and cause of non-compliance; and,
- b. the period of noncompliance, including dates and times; or, if not corrected, the anticipated time the non-compliance is expected to continue, and steps being taken to reduce, eliminate, and prevent recurrence of the non-compliance.

The permittee shall be responsible for any and all damages which may result and may be subject to enforcement action by the Department for penalties or for revocation of this permit.

9. In accepting this permit, the permittee understands and agrees that all records, notes, monitoring data and other information relating to the construction or operation of this permitted source which are submitted to the Department may be used by the Department as evidence in any enforcement case involving the permitted source arising under the F.S. or Department rules, except where such use is proscribed by Sections 403.73 and 403.111, F.S. Such evidence shall only be used to the extent it is consistent with the Florida Rules of Civil Procedure and appropriate evidentiary rules.

10. The permittee agrees to comply with changes in Department rules and F.S. after a reasonable time for compliance, provided, however,

PERMITTEE:

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GENERAL CONDITIONS:

the permittee does not waive any other rights granted by F.S. or Department rules.

11. This permit is transferable only upon Department approval in accordance with F.A.C. Rules 17-4.120 and 17-30.300, as applicable. The permittee shall be liable for any non-compliance of the permitted activity until the transfer is approved by the Department.

12. This permit or a copy thereof shall be kept at the work site of the permitted activity.

13. The permittee shall comply with the following:

a. Upon request, the permittee shall furnish all records and plans required under Department rules. During enforcement actions, the retention period for all records will be extended automatically unless otherwise stipulated by the Department.

b. The permittee shall hold at the facility or other location designated by this permit records of all monitoring information (including all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation) required by the permit, copies of all reports required by this permit, and records of all data used to complete the application for this permit. These materials shall be retained at least three years from the date of the sample, measurement, report, or application unless otherwise specified by Department rule.

c. Records of monitoring information shall include:

- the date, exact place, and time of sampling or measurements;
- the person responsible for performing the sampling or measurements;
- the dates analyses were performed;
- the person responsible for performing the analyses;
- the analytical techniques or methods used; and,
- the results of such analyses.

14. This permit constitutes compliance with:

- a. New Source Performance Standards (NSPS), 40 CFR 60, Subparts Db and Kb;
- b. Prevention of Significant Deterioration; and,
- c. Best Available Control Technology (BACT).

PERMITTEE:

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PSD-FL-200**

Champion International Corp. Expiration Date: Dec. 31, 1995

GENERAL CONDITIONS:

15. When requested by the Department, the permittee shall within a reasonable time furnish any information required by law which is needed to determine compliance with the permit. If the permittee becomes aware that relevant facts were not submitted or were incorrect in the permit application or in any report to the Department, such facts or information shall be corrected promptly.

SPECIFIC CONDITIONS:

A. No. 6 Power Boiler (PB)

1. The No. 6 PB may operate continuously (i.e., 8760 hrs/yr).
2. The No. 6 PB is permitted to fire natural gas only, with a maximum heat input of 533 MMBtu per hour, yielding a maximum steam product of 350,000 lbs/hr.
3. The No. 6 PB will be an ABB/CE boiler.
4. The Source Classification Code is:
1-02-006-01 Ext. Combustion Boiler-Industrial 10⁶ ft.³ Burned
5. The No. 6 PB is subject to all applicable standards of 40 CFR 60, Subpart Db (July, 1991 version).
6. The No. 6 PB is subject to all applicable standards of F.A.C. Rule 17-296.405(2).
7. The No. 6 PB's pollutant emissions shall not exceed:

NOx	0.06 lb/MMBtu (32.0 lbs/hr, 140.1 TPY)
CO	0.1 lb/MMBtu (53.3 lbs/hr, 233.5 TPY)
PM/PM ₁₀	2.67 lbs/hr, 11.7 TPY
SO ₂	Not Applicable: Natural gas usage (for PSD tracking purposes: 2.2 TPY projected potential emissions)
VOC	0.01 lb/MMBtu (5.33 lbs/hr, 23.4 TPY)
VE	≤ 20 % opacity (6-min avg), except for one 6-min period/hr @ ≤ 27% opacity
8. The initial and subsequent annual compliance tests shall be conducted using the following test methods in accordance with F.A.C. Rule 17-297 and 40 CFR 60, Subpart Db and Appendix A (July, 1991 version):
 - a) EPA Method 5, Determination of Particulate Emissions from Stationary Sources.

PERMITTEE:

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PSD-FL-200

Champion International Corp. Expiration Date: Dec. 31, 1995

SPECIFIC CONDITIONS:

- b) EPA Method 7E, Instrumental Method for Determining Nitrogen Oxide Concentrations at Fossil Fuel Fired Steam Generators.
- c) EPA Method 9, Visual Determination of the Opacity of Emissions from Stationary Sources.
- d) EPA Method 10, Determination of Carbon Monoxide Emissions from Stationary Sources.
- e) EPA Method 25A, Determination of Total Gaseous Organic Concentration Using a Flame Ionization Analyzer.

Note: Other reference methods may be used with prior written approval received from the Department in accordance with F.A.C. Rule 17-297.620.

9. Emission monitoring for nitrogen oxides shall be in accordance with 40 CFR 48b (July, 1991 version).

10. Reporting and recordkeeping requirements shall be in accordance with 40 CFR 60.46b (July, 1991 version).

B. Lime Kiln - Mud Dryer System (LK-MDS)

1. Operation permit No. AO 17-181738 is incorporated by reference except for the following changes and/or additions:

- a. the LK-MDS may operate continuously (i.e., 8760 hrs/yr);
- b. a new lime mud drier system will be constructed as an addition to the existing lime kiln operation;
- c. the pollutant emissions from the LK-MDS will be vented to a new electrostatic precipitator, which will be vented in series to a modified packed column wet scrubber using NaOH as the scrubbing media; there will be no bypass of the wet scrubber system allowed except for emergency or malfunction, which is a reportable activity;
- d. the wet scrubber slurry shall be maintained at a minimum pH of 8.0 and the unit shall be equipped with a continuous pH monitor/recorder system; records shall be maintained for a minimum two year period;
- e. the maximum allowable operating rate of CaO (lime) produced will be increased from 13.67 to 20.83 tons per hour;

PERMITTEE:

Permit Number: AC 17-223343

PSD-FL-200

Champion International Corp. Expiration Date: Dec. 31, 1995

SPECIFIC CONDITIONS:

f. the pollutant emissions from the LK-MDS shall not exceed:

NOx	No. 6 fuel oil: 200 ppmvd @ 10% O ₂ (49.3 lbs/hr, 215.9 TPY)
	Natural Gas: 175 ppmvd @ 10% O ₂ (43.1 lbs/hr, 188.8 TPY)
PM/PM ₁₀	10.9 lbs/hr, 47.7 TPY
CO	45 ppmvd @ 10% O ₂ (6.75 lbs/hr, 29.6 TPY)
VOC	104 ppmvd @ 10% O ₂ (as propane) (24.5 lbs/hr, 107.3 TPY)
TRS	8 ppmvd @ 10% O ₂ (1.46 lbs/hr, 6.4 TPY)
SO ₂	6.49 lbs/hr, 28.4 TPY
VE	< 20% opacity

Note: o Maximum of 500 tons/day CaO product;
o Maximum sulfur content of the No. 6 Fuel Oil is 1.0%, by weight; and,
o Volumetric flow rate @ 34,383 dscfm.

g. while firing No. 2 fuel oil, initial and subsequent annual compliance tests shall be conducted using the following test methods in accordance with F.A.C. Rule 17-297 and 40 CFR 60, Appendix A (July, 1991 version):

- 1) EPA Method 5, Determination of Particulate Emissions from Stationary Sources.
- 2) EPA Method 7E, Instrumental Method for Determining Nitrogen Oxide Concentrations at Fossil Fuel Fired Steam Generators.
- 3) EPA Method 8, Determination of Sulfuric Acid Mist and Sulfur Dioxide Emissions from Stationary Sources;
- 4) EPA Method 9, Visual Determination of the Opacity of Emissions from Stationary Sources.
- 5) EPA Method 10, Determination of Carbon Monoxide Emissions from Stationary Sources.
- 6) EPA Method 25A, Determination of Total Gaseous Organic Concentration Using a Flame Ionization Analyzer.

Note: Other reference methods may be used with prior written approval received from the Department in accordance with F.A.C. Rule 17-297.620.

h. while firing natural gas, initial compliance tests shall be conducted using the following test methods in accordance with F.A.C. Rule 17-297 and 40 CFR 60, Appendix A (July, 1991 version):

- 1) EPA Method 5, Determination of Particulate Emissions from Stationary Sources.
- 2) EPA Method 7E, Instrumental Method for Determining Nitrogen Oxide Concentrations at Fossil Fuel Fired Steam Generators.

PERMITTEE:

Permit Number: AC 17-223343
PSD-FL-200

Champion International Corp. Expiration Date: Dec. 31, 1995

SPECIFIC CONDITIONS:

- 3) EPA Method 8, Determination of Sulfuric Acid Mist and Sulfur Dioxide Emissions from Stationary Sources;
- 4) EPA Method 9, Visual Determination of the Opacity of Emissions from Stationary Sources.
- 5) EPA Method 10, Determination of Carbon Monoxide Emissions from Stationary Sources.
- 6) EPA Method 25A, Determination of Total Gaseous Organic Concentration Using a Flame Ionization Analyzer.

Note: Other reference methods may be used with prior written approval received from the Department in accordance with F.A.C. Rule 17-297.620.

C. Chlorine Dioxide (ClO₂) Generator

1. Operation permit No. AC 17-219596 is incorporated by reference except for the following changes and/or additions:

- a. the existing chlorine gas handling system will be eliminated;
- b. the generating process will be modified from a R3H process to a R8/R10 process, which will use methanol, sulfuric acid, and sodium chlorate to generate ClO₂;
- c. the maximum allowable operating rate will be increased from 16 tons/day ClO₂ to 37.4 tons/day;
- d. a third ClO₂ storage tank will be installed and the existing chlorine absorption towers will be converted to ClO₂ absorption towers;
- e. the ClO₂ storage tanks will vent to the existing two ClO₂ storage tank chilled water scrubbers;
- f. the existing two ClO₂ storage tank scrubbers will be vented to the tail gas scrubber, which will be modified by adding an additional 10 feet of tower and the scrubbing media will be changed from sodium hydroxide to white liquor (sodium hydroxide and sodium sulfide);
- g. a new 21,880 gallon methanol storage tank and handling system will be installed and is subject to all applicable standards pursuant to 40 CFR 60, Subpart Kb (July, 1991 version); for PSD tracking purposes, the projected potential VOC emissions are 2.2 TPY; also, the tank will be nitrogen blanketed and equipped with a conservation vent;

SCC: 4-07-008-15 Meth. Tank-Breathing Loss	10 ³ gals. storage cap.
4-07-008-16 Meth. Tank-Working Loss	10 ³ gals. storage cap.

PERMITTEE:

Permit Number: AC 17-223343

PSD-PL-200

Champion International Corp. Expiration Date: Dec. 31, 1995

SPECIFIC CONDITIONS:

h. the existing salt unloading and storage system will be shut down and dismantled;

i. the pollutant emissions shall not exceed:

R8/R10 ClO₂ Generator: 37.6 TPD

Tail Gas Scrubber

Cl₂ 0.1 lb/hr, 0.44 TPY

ClO₂ 0.25 lb/hr, 1.1 TPY

j. after construction/modification is completed, a meeting to establish the testing protocol shall be held with the Department, at which the following information shall be provided:

1) identification of all sources and their associated waste streams to be evaluated;

2) proposed sampling procedures/methods and analysis for determining Cl₂, ClO₂, and CHCl₃; and,

3) proposed testing dates.

Note: A post-test evaluation for rule applicability will be conducted to see if additional emissions evaluation is required.

D. A and B Bleach Plant Lines

1. Operation permit No. AO 17-219600 is incorporated by reference except for the following changes and/or additions:

a. both lines may operate continuously (i.e., 8760 hrs/yr);

b. the bleaching sequence will be changed from CED to DED;

c. a storage and handling system for the enzyme xylanase will be installed;

d. a storage and handling system for hydrogen peroxide will be installed;

e. the existing chlorine gas handling system will be eliminated;

f. the pollutant emissions shall not exceed:

1) A-Line Bleach Plant

a) E₀ Washer Vent CHCl₃ 0.038 lb/hr, 0.16 TPY

b) Tail Gas Scrubber Cl₂ 1.45 lbs/hr, 6.4 TPY

ClO₂ 0.45 lb/hr, 2.0 TPY

CHCl₃ 0.34 lb/hr, 1.5 TPY

PERMITTEE:

Permit Number: AC 17-223343

PSD-FL-200

Champion International Corp. Expiration Date: Dec. 31, 1995

SPECIFIC CONDITIONS:

2) B-Line Bleach Plant

- a) E₀ Washer Vent CHCl₃ 0.038 lb/hr, 0.16 TPY
- b) Tail Gas Scrubber Cl₂ 1.45 lbs/hr, 6.4 TPY
ClO₂ 0.45 lb/hr, 2.0 TPY
CHCl₃ 0.34 lb/hr, 1.5 TPY

h. after construction/modification is completed, a meeting to establish the testing protocol shall be held with the Department, at which the following information shall be provided:

- 1) identification of all sources and their associated waste streams to be evaluated;
- 2) proposed sampling procedures/methods and analysis for determining Cl₂, ClO₂, and CHCl₃; and,
- 3) proposed testing dates.

Note: A post-test evaluation for rule applicability will be conducted to see if additional emissions evaluation is required.

E. No. 2 Multiple Effect Evaporators (MEEs), Batch and Continuous Digester Systems, and Foul Condensate Steam Stripper System

1. Operation permit No. AO 17-212422 is incorporated by reference except for the following changes and/or additions:

a. the No. 2 MEEs will be modified to include the addition of two new effects, which will be vented to the non-condensable gas (NCG) handling system.

b. a storage and handling system will be installed for water-soluble anthraquinone, an organic catalyst, which will be used in both the batch and continuous digester systems; both systems vent to the NCG handling system; and,

c. an additional foul condensate steam stripper will be installed and will be vented to the lime kiln or calciner for incineration.

F. General

1. The facility shall be in compliance with all applicable standards/limitations of F.A.C. Rules 17-210 thru 297, 17-4, and 40 CFR (July, 1991 version).

2. The permittee is subject to the applicable provisions of F.A.C. Rules 17-4.130: Plant Operation-Problems; 17-210.650: Circumvention; and, 17-210.700: Excess Emissions.

PERMITTEE:

Permit Number: AC 17-223343

PSD-FL-200

Champion International Corp. Expiration Date: Dec. 31, 1995

SPECIFIC CONDITIONS:

3. Objectionable odors shall not be allowed off plant property in accordance with F.A.C. Rule 17-296.320(2).
4. The Department's Northwest District office shall be notified in writing at least 15 days prior to source testing pursuant to F.A.C. Rule 17-297.340. Written reports of the tests shall be submitted to the Department's Northeast District office within 45 days of the test completion in accordance with F.A.C. Rule 17-297.450.
5. Any change in the method of operation, raw materials, equipment, operating hours, etc., pursuant to F.A.C. Rule 17-212.200, Definitions-Modification, the permittee shall submit an application and the appropriate processing fee to the Department's Bureau of Air Regulation (BAR) office.
6. The permittee, for good cause, may request that this construction permit be extended. Such a request shall be submitted to the Department's BAR prior to 60 days before the expiration date of the permit (F.A.C. Rule 17-4.090).
7. An application for an operation permit must be submitted to the Department's Northwest District office at least 90 days prior to the expiration date of this construction permit. To properly apply for an operation permit, the applicant shall submit the appropriate application form, fee, certification that construction was completed noting any deviations from the conditions in the construction permit, and compliance test reports as required by this permit (F.A.C. Rules 17-4.055 and 17-4.220).

Issued this _____ day
of _____, 1993

**STATE OF FLORIDA DEPARTMENT
OF ENVIRONMENTAL REGULATION**

Virginia B. Wetherell
Secretary

Best Available Control Technology (BACT) Determination
Champion International Corporation
Escambia County

PSD-FL-200

The applicant proposes to modify its existing pulp mill, which includes the installation of a natural gas fired power boiler rated at a maximum heat input of 533 MMBtu/hr (350,000 lbs/hr steam) and the modification of the existing lime kiln and the A and B Bleach Plants. The steam will be used in the processes undergoing modifications in concert with the mill's wastewater Consent Order.

The applicant has indicated the maximum annual tonnage of regulated air pollutants emitted from the facility based on 100 percent capacity and type of fuel fired to be as follows:

Pollutant	Emissions (TPY)	PSD Significant Emission Rate (TPY)
NO _x	138.8	40
SO ₂	27.4	40
PM/PM10	-1.3	25/15
CO	189.0	100
VOC	85.5	40
TRS	-1.9	10

Florida Administrative Code (F.A.C.) Rule 17-212.400(2)(f) requires a BACT review for all regulated pollutants emitted in an amount equal to or greater than the significant emission rates listed in the previous table.

Date of Receipt of a BACT Application

December 21, 1992

BACT Determination Requested by the Applicant

Source	Pollutant	Determination
#6 Power Boiler	NO _x	0.06 lb/MMBtu (32.0 lbs/hr, 140.1 TPY)
	CO	0.1 lb/MMBtu (53.3 lbs/hr, 233.5 TPY)
	VOCs	Combustion Control 0.01 lb/MMBtu (5.33 lbs/hr, 23.4 TPY)
Lime Kiln-Mud Dryer	NO _x	#6 fuel oil: 200 ppmvd @ 10% O ₂ (49.3 lbs/hr, 215.9 TPY)
		Natural Gas: 175 ppmvd @ 10% O ₂ (43.1 lbs/hr, 188.8 TPY)
	CO	45 ppmvd @ 10% O ₂ (6.75 lbs/hr, 29.6 TPY)
	VOCs	104 ppmvd @ 10% O ₂ (as propane) (24.5 lbs/hr, 107.3 TPY)

BACT Determination Procedure

In accordance with Florida Administrative Code Chapter 17-212, Stationary Sources - Preconstruction Review, this BACT determination is based on the maximum degree of reduction of each pollutant emitted which the Department, on a case by case basis, taking into account energy, environmental and economic impacts, and other costs, determines is achievable through application of production processes and available methods, systems, and techniques. In addition, the regulations state that in making the BACT determination the Department shall give consideration to:

- (a) Any Environmental Protection Agency determination of Best Available Control Technology pursuant to Section 169, and any emission limitation contained in 40 CFR Part 60 (Standards of Performance for New Stationary Sources) or 40 CFR Part 61 (National Emission Standards for Hazardous Air Pollutants).
- (b) All scientific, engineering, and technical material and other information available to the Department.
- (c) The emission limiting standards or BACT determinations of any other state.
- (d) The social and economic impact of the application of such technology.

The EPA currently stresses that BACT should be determined using the "top-down" approach. The first step in this approach is to determine for the emission source in question the most stringent control available for a similar or identical source or source category. If it is shown that this level of control is technically or economically infeasible for the source in question, then the next most stringent level of control is determined and similarly evaluated. This process continues until the BACT level under consideration cannot be eliminated by any substantial or unique technical, environmental, or economic objections.

The air pollutant emissions from combined cycle power plants can be grouped into categories based upon what control equipment and techniques are available to control emissions from these facilities. Using this approach, the emissions can be classified as follows:

- o Combustion Products (e.g., particulates). Controlled generally by efficient combustion of clean fuels.
- o Products of Incomplete Combustion (e.g., CO). Control is largely achieved by proper combustion techniques.
- o Acid Gases (e.g., NOx). Controlled generally by gaseous control devices.

Grouping the pollutants in this manner facilitates the BACT analysis because it enables the equipment available to control the type or group of pollutants emitted and the corresponding energy, economic, and environmental impacts to be examined on a common basis. Although all of the pollutants addressed in the BACT analysis may be subject to a specific emission limiting standard as a result of PSD review, the control of "nonregulated" air pollutants is considered in imposing a more stringent BACT limit on a "regulated" pollutant (i.e., particulates, sulfur dioxide, fluorides, sulfuric acid mist, etc.), if a reduction in "nonregulated" air pollutants can be directly attributed to the control device selected as BACT for the abatement of the "regulated" pollutants.

Combustion/Incomplete Combustion Products

The projected emissions of carbon monoxide and volatile organic compounds from the proposed modification to Champion International Corporation's facility surpass the significant emission rates given in Florida Administrative Code Table 17-212.400-2.

CO and VOCs:

For CO and VOCs, the data base does not list any sources incorporating any add-on controls for these type of sources. Due to the interrelationship between these combustion related pollutants, it is generally acceptable to utilize good combustion practices and process controls to minimize these pollutants. Therefore, the limits requested are considered reasonable as BACT.

Acid Gas Products

The projected emissions of nitrogen oxides from the proposed modification to Champion International Corporation's facility surpass the significant emission rates given in Florida Administrative Code Table 17-212.400-2.

NOX:

For NOx, the proposed BACT limits for both the No. 6 Power Boiler and the Lime Kiln-Mud Dryer System are within the range of similar sources in the BACT/LAER clearinghouse data base.

For the No. 6 Power Boiler, there have been limited cases of SCR impositions, but the cost evaluation of such technology is prohibitive for this project. Costs and process parameters rule out the use of other technologies (i.e., SNCR and FGDN). The proposal to use Coen low-NOx burners together with flue gas recirculation to the combustion zone for minimizing NOx emissions is considered as BACT. However, available space will be made for the potential retrofit of a control system to control NOx.

For the Lime Kiln-Mud Dryer, the application of SCR, SNCR, or FGDN, have never been applied to a lime kiln system due to process variables. Therefore, the proposal to use good operational practices and proper combustion, along with the proposed emission limitations, is considered BACT.

Adverse Environmental Impact Analysis

The predominant adverse environmental impacts associated with the potential use of add-on control technology (SCR, SNCR or FGDN) are the emissions of other pollutants (i.e., ammonia, urea, hazardous waste from catalysts, etc.) used in the process for NO_x control. Although the use of add-on controls do have some positive environmental benefits, the disadvantages may outweigh the benefits provided by reducing NO_x emissions.

From the evaluation of natural gas combustion, toxics are projected to be emitted in very small amounts. Although the emissions of toxic pollutants could be controlled by particulate control devices, such as a baghouse or scrubber system, the amount of emission reductions would not warrant the added expense. Consequently, the Department does not believe that the BACT determination would be affected by the emissions of the toxic pollutants associated with the firing of natural gas.

BACT Determination by DER

NO_x Control

For the No. 6 Power Boiler, the information that the applicant presented indicates that the incremental cost of controlling NO_x is high compared to the guidelines. Based on the information presented by the applicant and the evaluation conducted, the Department believes that the use of add-on controls NO_x control is not justifiable as BACT. Therefore, the Department will accept the Coen low-NO_x burners together with flue gas recirculation to the combustion zone as NO_x control when firing natural gas.

For the Lime Kiln-Mud Dryer, there has not been an application of NO_x add-on controls for this type of source contained in the data base. Therefore, there will not be any add-on controls required for NO_x for this source.

CO and VOC Control

For CO and VOCs, the data base does not list any sources incorporating any add-on controls for these type of sources. Due to the interrelationship between these combustion related pollutants, it is generally acceptable to utilize good combustion practices and process controls to minimize these

pollutants. Therefore, there will not be any add-on controls required for CO or VOCs for both the No. 6 Power Boiler and the Lime Kiln-Mud Dryer.

The BACT limits for the proposed modification of the Champion International Corporation's facility are thereby established as follows:

<u>Source</u>	<u>Pollutant</u>	<u>Emission Standard/Limitation</u>
#6 Power Boiler	NO _x	0.06 lb/MMBtu (32.0 lbs/hr, 140.1 TPY)
	CO	0.1 lb/MMBtu (53.3 lbs/hr, 233.5 TPY)
	VOCs	Combustion Control 0.01 lb/MMBtu (5.33 lbs/hr, 23.4 TPY)
Lime Kiln-Mud Dryer	NO _x	#6 fuel oil: 200 ppmvd @ 10% O ₂ (49.3 lbs/hr, 215.9 TPY)
		Natural Gas: 175 ppmvd @ 10% O ₂ (43.1 lbs/hr, 188.8 TPY)
	CO	45 ppmvd @ 10% O ₂ (6.75 lbs/hr, 29.6 TPY)
	VOCs	104 ppmvd @ 10% O ₂ (as propane) (24.5 lbs/hr, 107.3 TPY)

Note: The maximum sulfur content of the #6 fuel oil is 1.0%, by weight.

Details of the Analysis May be Obtained by Contacting:

Bruce Mitchell, Engineer IV
 Department of Environmental Regulation
 Bureau of Air Regulation
 2600 Blair Stone Road
 Tallahassee, Florida 32399-2400

Recommended by:

Approved by:

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

 Virginia B. Wetherell, Secretary
 Dept. of Environmental Regulation

 Date 1993

 Date 1993

Attachments

Available Upon Request