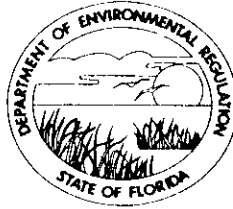


AC 62-45987

STATE OF FLORIDA

DEPARTMENT OF ENVIRONMENTAL REGULATION

TWIN TOWERS OFFICE BUILDING  
2600 BLAIR STONE ROAD  
TALLAHASSEE, FLORIDA 32301



BOB GRAHAM  
GOVERNOR  
VICTORIA J. TSCHINKEL  
SECRETARY

October 28, 1981

Mr. G. B. Ellis  
Plant Manager  
Buckeye Cellulose Corporation  
Route 3, Box 260  
Perry, Florida 32347

RE: Final Determination - Buckeye Cellulose Corporation,  
Application for State and Federal PSD Permits to  
Construct a Power Boiler (AC 62-45987, PSD-FL-085)

Dear Mr. Ellis:

Enclosed please find one copy of the referenced Final Determination. State Permit Number AC 62-45987 is hereby issued as of October 28, 1981, pursuant to Section 403, Florida Statutes. Final approval of the Federal PSD permit, which is incorporated with the state permit is contingent upon review and acceptance of the permit conditions by the Environmental Protection Agency Region IV office in Atlanta. Questions concerning final issuance of the Federal permit should be directed to Mr. T. Michael Taimi of the EPA office, at (404) 881-2017.

Acceptance of the state permit constitutes notice and agreement that the Department will periodically review this permit for compliance, including site inspections where applicable, and may initiate enforcement actions for violation of the conditions and requirements thereof.

Sincerely,

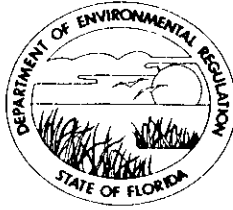
C. H. Fancy, Deputy Chief  
Bureau of Air Quality Management

cc: T. Michael Taimi, EPA Region IV  
George F. Nevin, E.M. Watkins and Company  
Doug Dutton, St. Johns River Subdistrict  
John Christiano, National Park Service

CHF/TP/bjm

DEPARTMENT OF ENVIRONMENTAL REGULATION

TWIN TOWERS OFFICE BUILDING  
2600 BLAIR STONE ROAD  
TALLAHASSEE, FLORIDA 32301



BOB GRAHAM  
GOVERNOR

VICTORIA J. TSCHINKEL  
SECRETARY

October 28, 1981

T. Michael Taimi, Chief  
Consolidated Permits Branch  
EPA, Region IV  
345 Courtland Street  
Atlanta, Georgia 30365

RE: Final Determination - Buckeye Cellulose Corporation,  
Application to Construct a Power Boiler

Dear Mr. Taimi:

Enclosed please find a copy of the proof of publication of the public notice, the public comments and the Department's response to the public comments and Final Determination for the referenced project. We recommend that the applicant be granted Authority to Construct, subject to the conditions in the Final Determination.

Sincerely,

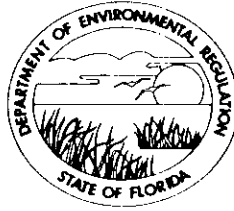
C. H. Fancy, P.E.  
Central Air Permitting

CHF/TP/bjm

Attachment

STATE OF FLORIDA  
**DEPARTMENT OF ENVIRONMENTAL REGULATION**

TWIN TOWERS OFFICE BUILDING  
2600 BLAIR STONE ROAD  
TALLAHASSEE, FLORIDA 32301



BOB GRAHAM  
GOVERNOR  
VICTORIA J. TSCHINKEL  
SECRETARY

October 28, 1981

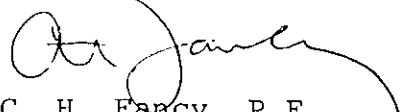
T. Michael Taimi, Chief  
Consolidated Permits Branch  
EPA, Region IV  
345 Courtland Street  
Atlanta, Georgia 30365

RE: Final Determination - Buckeye Cellulose Corporation,  
Application to Construct a Power Boiler

Dear Mr. Taimi:

Enclosed please find a copy of the proof of publication of the public notice, the public comments and the Department's response to the public comments and Final Determination for the referenced project. We recommend that the applicant be granted Authority to Construct, subject to the conditions in the Final Determination.

Sincerely,



C. H. Fancy, P.E.  
Central Air Permitting

CHF/TP/bjm

Attachment

FINAL DETERMINATION

Buckeye Cellulose Corporation

Perry, Florida

Power Boiler No. 1

AC 62-45987

Florida Department of Environmental Regulation  
Bureau of Air Quality Management  
Central Air Permitting

October 21, 1981

## Buckeye Cellulose Construction Permit Final Determination

Buckeye Cellulose's Construction Permit application for the experimental use of wood fines in its number 1 boiler has been reviewed by the Department. The Department has assessed the impact of this project and has determined that there will be no harmful effects to the environment or to public health. Public notice of the Departments Intent to Issue a construction permit was published in the Florida Times Union in Jacksonville Florida on September 19, 1981. Copies of the Preliminary Determination were available for public inspection at the Florida Department of Environmental Regulations' St. Johns River Subdistrict office and at the Bureau of Air Quality Management.

A comment on the preliminary determination was received from Buckeye Cellulose Corporation. The comment consisted of a request to modify power boiler number 1 instead of power boiler number 2. Both boilers are identical in steam capacities, fuel usage and are vented through the same stack. The major difference between the boilers is that the number 1 boiler has better control over the combustion of fuels than the number 2 boiler, thus making it potentially more efficient. This would reduce the amount of pollutants emitted since combustion will be more complete. The change is not considered substantive as it will potentially reduce emissions.

The final action of the Department will be to issue the permit as noticed in the public review process.

Public Notice

The Florida Department of Regulation (FDER) has received an application from and intends to issue a construction permit to Buckeye Cellulose Corporation for the modification of a boiler to burn wood fines at the company's kraft pulp mill in Taylor County. The application requires Best Available Control Technology (BACT) as well as both State and Federal review for Prevention of Significant Deterioration (Chapter 403, Florida Statutes, and Federal Regulation, 40 CFR 52.21).

The modification will increase emissions of air pollutants by the following amounts, for a period of time not to exceed two years:

TSP	1240 tons/yr
CO	25 tons/yr

Having reviewed the proposed modification, the FDER has made a preliminary determination that the construction can be approved provided that certain conditions will be met. A summary of the basis for this determination and the application for State and Federal permits submitted by Buckeye Cellulose Corp. are available for inspection at the following DER offices:

Bureau of Air Quality Management	St. Johns River Subdistrict
Dept. of Environmental Regulation	3426 Bills Road
2600 Blair Stone Road	Jacksonville, Florida 32207
Tallahassee, Florida 32301	

Any person may submit written comments regarding the proposed modification. All comments, postmarked not later than 30 days from the date of this notice, will be considered in making a final determination regarding approval of construction of this source. These comments will be made available for public review on request. Furthermore, a public hearing can be requested by any person. Such a request should be submitted within 15 days of the date of this notice. Letters should be addressed to:

Mr. C. H. Fancy  
Department of Environmental Regulation  
2600 Blair Stone Road  
Tallahassee, Florida 32301

Technical Evaluation  
and  
Final Determination

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I. PROJECT DESCRIPTION

A. Applicant

Buckeye Cellulose Corporation  
State Road 30  
Perry, Florida 32347

B. Project and Location

Buckeye Cellulose is proposing to modify an existing power boiler (#1, permit number AO 62-10945) to burn an alternate fuel. The boiler presently burns residual oil. Two of the four burners will be replaced to accommodate wood fines as a fuel. This is a test project to determine the feasibility of converting the entire boiler to this fuel and others in the future. The project is located in Perry, Taylor County, Florida. The UTM coordinates are 256.74 km East and 3328.7 km North.

C. Process and Controls

The number 1 power boiler presently has the capacity to burn either gas or oil. The modification will replace the lower two burners with wood suspension burners. These burners will operate separately but in parallel with the two remaining residual oil burner. The dried wood fines will be supplied from the bark dryer currently permitted by AC 62-30466. The fines will be pulverized and metered to the new burners.

The controls for the test period will be an existing side stream venturi scrubber. This scrubber treats approximately 50% of the exhaust gas from the number 1 power boiler. After the test period has been completed, additional controls will be installed to meet the applicable standards for power boilers.



II. SUMMARY OF EMISSIONS

The potential emission increases (uncontrolled) and projected actual emissions for the proposed project are listed below.

<u>Pollutant</u>	<u>Potential Emission Rate Increase (uncontrolled) (tons/year)</u>	<u>Applicant's Projected Actual Emission Rate (tons/year)</u>
Particulate	2,383	1,346
Sulfur Dioxide	-1,449	1,496
Carbon Monoxide	25	62
VOC	-55	62
Nitrogen Oxides	-136	302

The actual emissions are based on the use of a side stream venturi scrubber as control and the use of AP-42 factors. After the two year test period, these emission rates are expected to decrease by the addition of more or new controls.

III. RULE APPLICABILITY

A. State Rule

The Buckeye mill is in an area designated attainment for all criteria pollutants, and it is more than 50 km from any particulate matter (PM) or SO<sub>2</sub> nonattainment area. It is within 100 km of the St. Marks National Wilderness Class I area.

Since the proposed project is a change in the method of operation of an existing major emitting facility which would result in an increase in potential emissions of PM, it constitutes a modification subject to review under State prevention of significant deterioration (PSD) regulations (17-2.04(6),

FAC), PSD review consists of determination of best available control technology (BACT) for each pollutant for which there would be an increase in concentration over the baseline and an air quality impact analysis to demonstrate that the project would not cause or contribute to a violation of any ambient air quality standard or PSD increment. For the proposed project, PSD review is required for PM only. The BACT determination for PM takes into account that the proposed project is a test program of limited duration.

Since power boiler #1 has a maximum heat input rate less than or equal to 250 million Btu/hr, the project is not subject to the federal new source performance standards (NSPS) for fossil-fuel steam generators (40 CFR 60.40, Subpart D) adopted by reference under 17-2.21 (2) (a), FAC. While burning liquid fossil fuel, the boiler is subject to a visible emissions limit of 20% opacity and emission limitations for PM, SO<sub>2</sub>, and NO<sub>x</sub> which represent BACT (17-2.05 (6), Table II, E. (2), FAC).

B. Federal Rule

The proposed source is subject to federal PSD review because it is a major modification. The net increases for pollutant emissions and significant emission rates are listed as follows:

<u>Regulated Pollutant</u>	<u>Net Emission Increase (tons/year)</u>	<u>Significant Emission Rate (tons/year)</u>
Particulate Matter (PM)	1,294	25
SO <sub>2</sub>	-1,449	40
CO	25	100
VOC	-55	40
NO <sub>x</sub>	-136	40

Page Four

Since the proposed project is a change in the method of operation of an existing major stationary source which would result in a significant net emissions increase of at least one regulated pollutant, it constitutes a major modification subject to review under federal PSD regulations (40 CFR 52.21(i)). PSD review consists of a determination of best available control technology (BACT) and, unless otherwise exempted, an air quality impact analysis for each attainment pollutant that would be emitted in a significant net amount. For the proposed project, PSD review is required for PM only. An air quality impact analysis is not required since the project duration will not exceed two years and the applicant has demonstrated that the net increase in PM emissions will not have a significant impact ( $1 \text{ ug/m}^3$ , 24-hour average) on the St. Marks National Wilderness Class I area. The BACT determination for PM takes into account that the proposed project is a test program of limited duration.

Since power boiler #1 has a maximum heat input rate less than or equal to 250 million Btu/hr, the project is not subject to the federal new source performance standards (NSPS) for fossil-fuel steam generators (40 CFR 60.40, Subpart D).

IV. Air Quality Impact Analysis

A. Summary

The State PSD review for PM requires an air quality impact analysis which includes a PSD increment analysis and a Florida Ambient Air Quality Standards (FAAQS) analysis. The State PSD increment and FAAQS analyses depend on air quality modeling carried out in accordance with FDER-approved methods.

Based on these required analyses, FDER has reasonable assurance that the Buckeye Cellulose modification, as described in this permit and subject to the conditions of approval proposed herein, will not cause or contribute to a violation of any PSD increment or ambient air quality standard. A discussion of the required analyses follows.

B. Discussion

1. Modeling Methodology

The Single-Source (CRSTER) model, an FDER and EPA-approved dispersion model, was used to determine the maximum predicted annual concentrations and to identify the worst-case short-term meteorological conditions which would affect emissions from Buckeye Cellulose after the proposed modification is completed. The maximum short-term impacts were refined using the CRSTER model with a 0.1 kilometer spacing between receptor rings and only the days on which worst-case meteorological conditions occurred.

The surface meteorological data used in the model were National Weather Service data collected at Tallahassee, Florida, during the year 1964. Upper air meteorological data used in the model were collected during the same year at Montgomery, Alabama.

Final stack parameters and emission rates used in modeling the proposed Buckeye Cellulose modification are contained in Tables 1 and 2.

2. Analysis of Existing Air Quality

There are no FDER or EPA approved total suspended particulate (TSP) monitors in the vicinity of the Buckeye Cellulose mill. Since this mill is located in a remote area with respect to emissions of PM from other sources and since all PM sources at the mill itself were included in the modeling, a background value of  $35 \text{ ug/m}^3$  was assumed by FDER.

3. PSD Increment Analysis

Buckeye Cellulose mill is located in an area where the Class II PSD increments apply. The nearest Class I area is St. Marks National Wilderness Area, approximately 44 kilometers away from the mill site.

In addition to the proposed modification to boiler No. 1, increment consumption is affected by the addition of a calciner to the mill in 1979. As shown in the following table, modeling results predict that the maximum TSP increment consumption due to the calciner and the proposed modification to boiler No. 1 will not exceed allowable increments. The highest 24-hour predicted concentration is given in the table since only one year of meteorological data was used in the modeling.

4. Ambient Air Quality Standards Analysis

State PSD regulations require the permit applicant to demonstrate that, given existing air quality in an area, a proposed emissions increase subject to PSD review will not cause or contribute to any violation of ambient air quality standards. As shown in the following table, modeling results predict that maximum ground-level TSP concentrations resulting from total mill emissions after the proposed modification will be below the FAAQS. The highest short-term predicted values are given in this table since only one year of meteorological data was used in the modeling.

<u>Averaging Time</u>	<u>Projected TSP Concentration* (ug/m<sup>3</sup>)</u>	<u>FAAQS (ug/m<sup>3</sup>)</u>
Annual	42	60
24-hour	102	150

\*Includes background concentration of 35 ug/m<sup>3</sup>.

Table 1

## Stack Parameters for Buckeye Cellulose - Baseline Case

<u>Emissions Unit</u>	<u>Stack Height (m)</u>	<u>Stack Diameter (m)</u>	<u>Exit Velocity (m/s)</u>	<u>Exit Temperature (K)</u>	<u>Emission Rate (g/sec) PM</u>
No. 1 Kiln	29.26	1.22	9.69	344.7	2.31
No. 2 Kiln	29.26	1.22	15.20	343.6	2.48
No. 3 Kiln	29.26	1.22	11.77	349.7	2.61
No. 2 Recovery Blr.	68.58	3.35	14.11	430.2	11.65
No. 2 Smelt Tank	43.28	0.91	7.55	343.6	3.16
No. 3 Recovery Blr.	68.58	2.74	17.63	402.4	10.37
No. 3 Smelt Tank	42.67	1.22	8.81	345.8	3.04
No. 4 Recovery Blr.	68.58	2.90	21.71	474.7	11.72
No. 4 Smelt Tank	49.38	1.22	10.33	344.7	3.28
Power Boilers Stack	68.58	3.96	15.56	413.0	25.04

Table 2

## Stack Parameters for Buckeye Cellulose - Projected Case

<u>Emissions Unit</u>	<u>Stack Height (m)</u>	<u>Stack Diameter (m)</u>	<u>Exit Velocity (m/s)</u>	<u>Exit Temperature (K)</u>	<u>Emission Rate (g/sec) PM</u>
No. 1 Kiln	29.26	1.22	9.69	344.7	2.31
No. 2 Kiln	29.26	1.22	15.20	343.6	2.48
No. 3 Kiln	29.26	1.22	11.77	349.7	2.61
No. 2 Recovery Blr.	68.58	3.35	14.11	430.2	11.65
No. 2 Smelt Tank	43.28	0.91	7.55	343.6	3.16
No. 3 Recovery Blr.	68.58	2.74	17.63	402.4	10.37
No. 3 Smelt Tank	42.67	1.22	8.81	345.8	3.04
No. 4 Recovery Blr.	68.58	2.90	21.71	474.7	11.72
No. 4 Smelt Tank	49.38	1.22	10.33	344.7	3.28
Power Boilers Stack	68.58	3.96	16.90	377.0	57.15
Calciner	37.49	1.52	15.70	341.3	3.30
Shave Off Scrubber	52.00	1.07	12.10	341.0	3.53



Maximum TSP Increment Consumption  
(ug/m<sup>3</sup>)

	<u>Averaging Time</u>	
	<u>24-hour</u>	<u>Annual</u>
Class II PSD Increment Consumed by Buckeye Cellulose	14	1
Allowable Class II Increment	37	19
Class I PSD Increment Consumed By Buckeye Cellulose	2	< 1
Allowable Class I Increment	10	5

V. CONCLUSIONS

The emissions projected by the applicant are reasonable for the test period (2 years). Upon conclusion of the testing program, the emission limitations as described in the BACT determination shall become effective. The project schedule as well as additional provisions outlined in the BACT determination shall become conditions of the permit.

The General and Specific conditions stated in the proposed state permit (AC 62-45987) and federal permit (PSD-FL-085) will assure no violations of ambient air quality standards or PSD increments.

## GENERAL CONDITIONS

1. The permittee shall notify the permitting authority in writing of the beginning of construction of the permitted source within 30 days of such action and the estimated date of start-up of operation.
2. The permittee shall notify the permitting authority in writing of the actual start-up of the permitted source within 30 days of such action and the estimated date of demonstration of compliance as required in the specific conditions.
3. Each emission point for which an emission test method is established in this permit shall be tested in order to determine compliance with the emission limitations contained herein within sixty (60) days of achieving the maximum production rate, but in no event later than 180 days after initial start-up of the permitted source. The permittee shall notify the permitting authority of the scheduled date of compliance testing at least thirty (30) days in advance of such test. Compliance test results shall be submitted to the permitting authority within forty-five (45) days after the complete testing. The permittee shall provide (1) sampling ports adequate for test methods applicable to such facility, (2) safe sampling platforms, (3) safe access to sampling platforms, and (4) utilities for sampling and testing equipment.
4. The permittee shall retain records of all information resulting from monitoring activities and information indicating operating parameters as specified in the specific conditions of this permit for a minimum of two (2) years from the date of recording.
5. If, for any reason, the permittee does not comply with or will not be able to comply with the emission limitations specified in this permit, the permittee shall provide the permitting authority with the following information in writing within five (5) days of such conditions:
  - (a) description of noncomplying emission(s),
  - (b) cause of noncompliance,
  - (c) anticipated time the noncompliance is expected to continue or, if corrected, the duration of the period of noncompliance,
  - (d) steps taken by the permittee to reduce and eliminate the noncomplying emission,and
  - (e) steps taken by the permittee to prevent recurrence of the noncomplying emission.

Failure to provide the above information when appropriate shall constitute a violation of the terms and conditions of this permit. Submittal of this report does not constitute a waiver of the emission limitations contained within this permit.

6. Any change in the information submitted in the application regarding facility emissions or changes in the quantity or quality of materials processed that will result in new or increased emissions must be reported to the permitting authority. If appropriate, modifications to the permit may then be made by the permitting authority to reflect any necessary changes in the permit conditions. In no case are any new or increased emissions allowed that will cause violation of the emission limitations specified herein.
7. In the event of any change in control or ownership of the source described in the permit, the permittee shall notify the succeeding owner of the existence of this permit by letter and forward a copy of such letter to the permitting authority.
8. The permittee shall allow representatives of the State environmental control agency or representatives of the Environmental Protection Agency, upon the presentation of credentials:
  - (a) to enter upon the permittee's premises, or other premises under the control of the permittee, where an air pollutant source is located or in which any records are required to be kept under the terms and conditions of the permit;
  - (b) to have access to any copy at reasonable times any records required to be kept under the terms and conditions of this permit, or the Act;
  - (c) to inspect at reasonable times any monitoring equipment or monitoring method required in this permit;
  - (d) to sample at reasonable times any emission of pollutants;and
  - (e) to perform at reasonable times an operation and maintenance inspection of the permitted source.
9. All correspondence required to be submitted by this permit to the permitting agency shall be mailed to:

Chief, Air Facilities Branch  
Air and Hazardous Materials Division  
U. S. Environmental Protection Agency  
Region IV  
345 Courtland Street  
Atlanta, Georgia 30308

10. The conditions of this permit are severable, and if any provision of this permit, or the application of any provision of this permit to any circumstance, is held invalid, the application of such provision to other circumstances, and the remainder of this permit, shall not be affected thereby.

The emission of any pollutant more frequently or at a level in excess of that authorized by this permit constitute a violation of the terms and conditions of this permit.



STATE OF FLORIDA

DEPARTMENT OF ENVIRONMENTAL REGULATION

APPLICANT:

Buckeye Cellulose Corporation (BCC)  
State Road 30  
Perry, Florida 32347

PERMIT/CERTIFICATION  
NO. AC 62-45987

COUNTY:

PROJECT: Modification of  
Power Boiler to burn  
Wood Fines.

This permit is issued under the provisions of Chapter 403, Florida Statutes, and Chapter 17-2 and 17-4, Florida Administrative Code. The above named applicant, hereinafter called Permittee, is hereby authorized to perform the work or operate the facility shown on the approved drawing(s), plans, documents, and specifications attached hereto and made a part hereof and specifically described as follows:

The project consists of the modification of the number 1 power boiler by replacing 2 of 4 oil firing burners with 2 suspension wood fines burners. The project is located at the Buckeye Cellulose plant in Perry, Taylor County, Florida. The latitude is 30° 03' 59" North and 83° 33' 12" West with the UTM coordinates 256.74 km East and 3328.7 km North.

Construction shall be in accordance with the attached permit application, plans, documents and drawings except as otherwise noted in the specific conditions.

Attachments:

1. Application to construct Air Pollution Source, DER Form 17-1.122 (16), received July 29, 1981.
2. BACT Determination, dated September 18, 1981.
3. BCC's Petition for Experimental Testing and Research Program, dated April 27, 1981.
4. BCC's response to DER pre-application meeting dated June 26, 1981.
5. BCC's results of PSD modeling.
6. BCC's request for altering power boiler #1 instead of power boiler #2.
7. BCC's waiver of 90 day permit issuance limit.

PERMIT NO.:  
APPLICANT:

**GENERAL CONDITIONS:**

1. The terms, conditions, requirements, limitations, and restrictions set forth herein are "Permit Conditions", and as such are binding upon the permittee and enforceable pursuant to the authority of Section 403.161(1), Florida Statutes. Permittee is hereby placed on notice that the department will review this permit periodically and may initiate court action for any violation of the "Permit Conditions" by the permittee, its agents, employees, servants or representatives.

2. This permit is valid only for the specific processes and operations indicated in the attached drawings or exhibits. Any unauthorized deviation from the approved drawings, exhibits, specifications, or conditions of this permit shall constitute grounds for revocation and enforcement action by the department.

3. 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 notify and provide the department with the following information: (a) a description of the cause of non-compliance; and (b) the period of non-compliance, including exact 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 revocation of this permit.

4. As provided in subsection 403.087(6), Florida Statutes, the issuance of this permit does not convey any vested rights or any exclusive privileges. Nor 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.

5. This permit is required to be posted in a conspicuous location at the work site or source during the entire period of construction or operation.

6. 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 arising under the Florida Statutes or department rules, except where such use is proscribed by Section 403.111, F.S.

7. In the case of an operation permit, permittee agrees to comply with changes in department rules and Florida Statutes after a reasonable time for compliance, provided, however, the permittee does not waive any other rights granted by Florida Statutes or department rules.

8. This permit does not relieve the permittee from liability for harm or injury to human health or welfare, animal, plant, or aquatic life or property and penalties therefore caused by the construction or operation of this permitted source, nor does it allow the permittee to cause pollution in contravention of Florida Statutes and department rules, except where specifically authorized by an order from the department granting a variance or exception from department rules or state statutes.

9. This permit is not transferable. Upon sale or legal transfer of the property or facility covered by this permit, the permittee shall notify the department within thirty (30) days. The new owner must apply for a permit transfer within thirty (30) days. The permittee shall be liable for any non-compliance of the permitted source until the transferee applies for and receives a transfer of permit.

10. The permittee, by acceptance of this permit, specifically agrees to allow access to permitted source at reasonable times by department personnel presenting credentials for the purposes of inspection and testing to determine compliance with this permit and department rules.

11. This permit does not indicate a waiver of or approval of any other department permit that may be required for other aspects of a total project.

12. This permit conveys no title to land or water, nor constitutes state recognition or acknowledgement of title, and does not constitute authority for the reclamation 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.

13. This permit also constitutes:

- Determination of Best Available Control Technology (BACT)
- Determination of Prevention of Significant Deterioration (PSD)
- Certification of Compliance with State Water Quality Standards (Section 401, PL 92-500)

PERMIT-NO.: AC 62-45987  
APPLICANT: Buckeye Cellulose Corporation

SPECIFIC CONDITIONS:

1. Maximum allowable emission from the number 1 power boiler during the test period will be:

<u>Pollutant</u>	<u>lb/hr</u>	<u>tons/yr</u>
Particulate	320.5	1346
Sulfur dioxide	356	1496

2. The visible emissions shall not exceed 20% except for 27% for 6 minutes per hour, determined by EPA reference method 9 or a state approved method.
3. The sulfur content of the fuel oil shall not exceed 2.5%.
4. The number 1 power boiler shall not operate more than 8400 hours per year.
5. Compliance test for particulate shall be EPA reference methods 1,2, 4 and 5, 40 CFR Part 60 Appendix A approved method. The compliance for the sulfur dioxide emission limit shall be by submission of the fuel oil analysis at the time of the particulate test.
6. The test plan shall be adhered to as proposed by the applicant which is as follows:
  - A. Baseline Testing of Existing Boiler:  
Burners on gas and oil.  
Start testing 8/81, month required.  
Learn response and stability of existing B & W burners on gas and oil. Measure pressures, excess air, super-heat and steam output.
  - B. Testing of New Burners on Gas and Oil:  
Start testing 11/81, 1 month required.
  - C. Test Fines Burners for Performance:  
Start testing 1/82, 1-3 months required.  
Determine flame shaping with optimum fuel conditions; i.e., smallest particle size, low moisture range, wood from existing dryer.



PERMIT NO.: AC 62-45987  
APPLICANT: Buckeye Cellulose Corporation

- D. Vary Pulverizer Configuration: Start testing, 4/82, 1-2 months required.
- E. Vary classification to determine optimum arrangement vs. horsepower and capacity.
- F. Resume Burner Testing:  
Start testing 6/82, 1-3 months required.  
Test burners with varying particulate size and moisture content. Evaluate pulverizer/drying system as a coupled unit.
- G. Commence Environmental Testing:  
Start testing - 9/82, 1-3 months required.  
Measure particulate, HC, CO and NO<sub>x</sub> emissions as load, particle size and moisture content are varied.
- H. Boiler Performance Tests:  
Start testing 12/82, 1-3 months required.  
Determine ash fallout in various sections of boiler. Need for grate, ash dump, fly ash fallout, superheat temperature.
- I. Green Wood Testing:  
Start testing 3/83 - 1-3 months required.  
Test prototype for performance as a full-scale dryer/pulverizer system using factors of each of the previous tests.
- J. Operational Testing for Long Term Stability:  
Start testing 6/83, 6 months required.  
Test factors such as erosion, sooting, fouling, etc.
7. A project progress report is to be submitted every ninety (90) days to the DER St. Johns River Subdistrict Office, to the attention of the Air Engineer.

PERMIT NO.: AC 62-45987  
APPLICANT: Buckeye Cellulose Corporation

8. At the conclusion of the test program or upon 90 days prior to the expiration of this permit, Buckeye Cellulose will supply Department with a complete report of the test. An application for modification or operation, whichever is appropriate based on the results of the test, shall be made prior to any modification.

Expiration Date: January 25, 1984

Issued this 26 day of October, 1981

                     Pages Attached.

STATE OF FLORIDA  
DEPARTMENT OF ENVIRONMENTAL REGULATION

  
Signature

PAGE 4 OF 4

Best Available Control Technology (BACT) Determination

The Buckeye Cellulose Corporation

Taylor County, Florida

The applicant proposes to modify an existing 250 million Btu per hour heat input fossil fuel fired power boiler at their facility located six miles southeast of Perry, Florida. The upper two gas/oil burners in the No. 1 power boiler will remain intact, the lower two will be removed and two wood suspension burners installed. The new burners will operate separately but in parallel with the two remaining gas/oil burners. The new burners will fire wood fines from the bark dryer. This wood fuel will contain ~10 percent moisture and will pass a No. 35 U.S. Standard mesh (500 microns). At maximum capacity 14,530 pounds of wood fines, 20.4 barrels of No. 6 oil or 0.12 million cubic feet of natural gas will be consumed per hour. The unit is scheduled to operate 8,400 hours per year.

This is a project to optimize operating parameters to use dried wood fines as a replacement fuel for residual oil in existing power boilers. The data obtained will be used to finalize an operational unit equipped with an efficient pollutant emission control device(s).

BACT Determination Requested by the Applicant:

A maximum particulate emission limit is set as 308 lb/hr from the firing of wood fines and 12.5 lb/hr from the fossil fuel. Since this is a new firing concept and the actual emissions unknown, BACT is to run a series of tests to obtain pollutant emission data. The test plan and schedule follows:

I. Baseline Testing of Existing Boiler:

Burners on gas and oil.

Start testing 8/81, 1 month required.

Learn response and stability of existing B & W burners on gas and oil. Measure pressures, excess air, super-heat and steam output.

II. Testing of New Burners on Gas and Oil:

Start testing 10/81, 1 month required.

III. Test Fines Burners for Performance:

Start testing 1/82, 1-3 months required.

Determine flame shaping with optimum fuel conditions; i.e., smallest particle size, low moisture range, wood from existing dryer.

IV. Vary Pulverizer Configuration:

Start testing 4/82, 1-2 months required.

Page Two

Vary classification to determine optimum arrangement vs. horsepower and capacity.

V. Resume Burner Testing:

Start testing 6/82, 1-3 months required.  
Test burners with varying particule size and moisture content. Evaluate pulverizer/drying system as a coupled unit.

VI. Commence Environmental Testing:

Start testing - 9/82, 1-3 months required.  
Measure particulate, HC, CO and NO<sub>x</sub> emissions as load, particle size and moisture content<sup>x</sup> are varied.

VII. Boiler Performance Tests:

Start testing 12/82, 1-3 months required.  
Determine ash fallout in various sections of boiler. Need for grate, ash dump, fly ash fallout, superheat temperature.

VIII. Green Wood Testing:

Start testing 3/83 - 1-3 months required.  
Test prototype for performance as a full-scale dryer/pulverizer system using factors of each of the previous tests.

IX. Operational Testing for Long Term Stability:

Start testing 6/83, 6 months required.  
Test factors such as erosion, sooting, fouling, etc.

The flue gas stream will be split, a portion into an on site side stream venturi scrubber, the remainder into a stack discharging to the atmosphere. This stack also handles the flue gases from two bark boilers and an oil fired boiler.

Date of Receipt of a BACT Application:

July 30, 1981

Date of Publication in the Florida Administrative Weekly:

August 7, 1981

Page Three

Review Group Members:

Willard Hanks - BAQM New Source Review Section  
Carl Bock - BAQM New Source Review Section  
Mike Harley - Office of Rules and Special Projects  
Johnny Cole - St. Johns River Subdistrict

The final BACT determination is based on the review group recommendations.

BACT Determination by DER:

I. Design Goal Emission Limits

Pollutant	Emission Limit
Particulates	0.15 lb/million Btu heat input
SO <sub>2</sub>	Fuel oil with $\leq 2.5\%$ sulfur content
NO <sub>x</sub>	0.30 lb/million Btu heat input
Visible Emissions	20% opacity except for 27% for 6 minutes per hour.

The emission limits in I. above become effective at completion of the testing program or June 1983, whichever comes first.

II. Interim Emission Limits:

Pollutant	Emission Limit
Particulates (wood fuel)	308 lb/hr
Particulates (fossil fuel)	12.5 lb/hr
SO <sub>2</sub>	Fuel oil with $\leq 2.5\%$ sulfur content.

The emission limits in II. above apply only to the emissions resulting from the No. 1 power boiler conversion project.

III. Project Schedule.

The test plan and schedule as proposed by the applicant is approved with the following provisions.

1. A project progress report is to be submitted every ninety (90) days to the DER St. Johns River Subdistrict Office, to the attention of Mr. Johnny Cole.
2. EPA reference test methods or other State approved methods will be used to determine pollutant emission rates. Minimum sample volume and time will be as specified in the NSPS for fossil fuel fired steam generators, 40 CFR 60, Subpart D.

Page Four

Justification of DER Determination:

The Department has determined the BACT in three parts; (I) final or design emission limits; (II) interim emission limits, and (III) the project schedule.

The final emission limit for particulate matter is less stringent than NSPS for fossil fuel boilers (40 CFR 50, Subpart D) but more stringent than the State emission limit for carbonaceous fuel (17-2.05(6)I.(2)(b)F.A.C.). The SO<sub>2</sub> emission limit is based upon the sulfur content of the fuel oil, SO<sub>2</sub> emissions from the burning of wood fines are negligible. These emission limits will apply after completion of the project test program.

The interim emission limits determined as BACT will apply during the conversion and testing of No. 1 boiler. Ambient air quality modeling predicts no violation of AAQ standards.

The Department accepts the proposed time schedule for the conversion project. The reasons for the two added provisions are self-explanatory.

Details of the Analysis May be Obtained by Contacting:

Edward Palagyi, BACT Coordinator  
Department of Environmental Regulation  
Bureau of Air Quality Management  
2600 Blair Stone Road  
Tallahassee, Florida 32301

Recommended By:

*CTJ James*

*CTJ*  
Steve Smallwood, Chief, BAQM

Date:

*9/16/81*

Approved:

*Terry Cole*  
Victoria Tschinkel, Secretary

Date:

*September 18, 1981*

SS:caa



AC 62-45987

STATE OF FLORIDA  
DEPARTMENT OF ENVIRONMENTAL REGULATION  
APPLICATION TO OPERATE/CONSTRUCT  
AIR POLLUTION SOURCES



SOURCE TYPE: Power Boiler [ New] [ Existing]

APPLICATION TYPE: [ Construction] [ Operation] [ Modification]

COMPANY NAME: The Buckeye Cellulose Corporation COUNTY: Taylor

Identify the specific emission point source(s) addressed in this application (i.e. Lime Kiln No. 4 with Venturi Scrubber; Peeking Unit No. 2, Gas Fired) #2 Power Boiler

SOURCE LOCATION: Street 5 to 6 miles southeast of Perry City Perry

UTM: East 256,740 North 3,328,700

Latitude 30° 03' 59" N Longitude 83° 33' 12" W

APPLICANT NAME AND TITLE: G. B. Ellis, Plant Manager

APPLICANT ADDRESS: Perry, Florida 32347

SECTION I: STATEMENTS BY APPLICANT AND ENGINEER

A. APPLICANT

I am the undersigned owner or authorized representative\* of The Buckeye Cellulose Corporation

I certify that the statements made in this application for a construction permit are true, correct and complete to the best of my knowledge and belief. Further, I agree to maintain and operate the pollution control source and pollution control facilities in such a manner as to comply with the provision of Chapter 403, Florida Statutes, and all the rules and regulations of the department and revisions thereof. I also understand that a permit, if granted by the department, will be non-transferable and I will promptly notify the department upon sale or legal transfer of the permitted establishment.

\*Attach letter of authorization

Signed: G. B. Ellis  
G. B. Ellis, Plant Manager  
Name and Title (Please Type)  
Date: \_\_\_\_\_ Telephone No. (904) 584-0231

B. PROFESSIONAL ENGINEER REGISTERED IN FLORIDA (where required by Chapter 471, F.S.)

This is to certify that the engineering features of this pollution control project have been designed/examined by me and found to be in conformity with modern engineering principles applicable to the treatment and disposal of pollutants characterized in the permit application. There is reasonable assurance, in my professional judgment, that the pollution control facilities, when properly maintained and operated, will discharge an effluent that complies with all applicable statutes of the State of Florida and the rules and regulations of the department. It is also agreed that the undersigned will furnish, if authorized by the owner, the applicant a set of instructions for the proper maintenance and operation of the pollution control facilities and, if applicable, pollution sources.

Signed: George F. Nevin  
George F. Nevin  
Name (Please Type)  
E. M. Watkins & Company  
Company Name (Please Type)  
P.O. Box 2194, Tallahassee, FL 32304  
Mailing Address (Please Type)

(Affix Seal)

Florida Registration No. 8341 Date: 7/28/81 Telephone No. (904) 576-7181

<sup>1</sup>See Section 17-2.02(15) and (22), Florida Administrative Code. (F.A.C.)

SECTION II: GENERAL PROJECT INFORMATION

A. Describe the nature and extent of the project. Refer to pollution control equipment, and expected improvements in source performance as a result of installation. State whether the project will result in full compliance. Attach additional sheet if necessary.

This is a project to evaluate the feasibility of recovering and recycling dried wood fines as a replacement for residual oil in existing power boilers and to develop the information necessary to design a full-scale installation complete with acceptable environmental controls. (See Attachments I, II, III, & IV).

B. Schedule of project covered in this application (Construction Permit Application Only)

Start of Construction October 1, 1981 Completion of Construction January 1, 1984  
 Start of Test Program 1/82 Completion of Test Program 12/83 (1)

C. Costs of pollution control system(s): (Note: Show breakdown of estimated costs only for individual components/units of the project serving pollution control purposes. Information on actual costs shall be furnished with the application for operation permit.)

Not available.

D. Indicate any previous DER permits, orders and notices associated with the emission point, including permit issuance and expiration dates.

A062-2121 9/19/73 - 9/20/78  
A062-10945 10/10/78 - 9/20/83

E. Is this application associated with or part of a Development of Regional Impact (DRI) pursuant to Chapter 380, Florida Statutes, and Chapter 22F-2, Florida Administrative Code? Yes  No

F. Normal equipment operating time: hrs/day 24; days/wk 7; wks/yr 50; if power plant, hrs/yr \_\_\_\_\_; if seasonal, describe: \_\_\_\_\_

G. If this is a new source or major modification, answer the following questions. (Yes or No)

- |   |            |
|---|------------|
| 1. Is this source in a non-attainment area for a particular pollutant?  | <u>No</u>  |
| a. If yes, has "offset" been applied?   | <u>N/A</u> |
| b. If yes, has "Lowest Achievable Emission Rate" been applied?  | <u>N/A</u> |
| c. If yes, list non-attainment pollutants.  | <u>N/A</u> |
| 2. Does best available control technology (BACT) apply to this source? If yes, see Section VI.  | <u>Yes</u> |
| 3. Does the State "Prevention of Significant Deterioration" (PSD) requirements apply to this source? If yes, see Sections VI and VII. | <u>Yes</u> |
| 4. Do "Standards of Performance for New Stationary Sources" (NSPS) apply to this source?  | <u>No</u>  |
| 5. Do "National Emission Standards for Hazardous Air Pollutants" (NESHAP) apply to this source?                                       | <u>No</u>  |

Attach all supportive information related to any answer of "Yes". Attach any justification for any answer of "No" that might be considered questionable. (1) See Attachment VIII



**SECTION III: AIR POLLUTION SOURCES & CONTROL DEVICES (Other than Incinerators)**

**A. Raw Materials and Chemicals Used in your Process, if applicable:**

Description	Contaminants		Utilization Rate - lbs/hr	Relate to Flow Diagram
	Type	% Wt		
Wood Fines	Ash	3.90	Max. 14,530 lbs/hr	Vent 10-6 & T-1
				Experimental Vent

**B. Process Rate, if applicable: (See Section V, Item 1)**

- Total Process Input Rate (lbs/hr): N/A
- Product Weight (lbs/hr): 195,000 lbs/hr expressed as steam

**C. Airborne Contaminants Emitted:**

Name of Contaminant	Emission <sup>1</sup>		Allowed Emission <sup>2</sup> Rate per Ch. 17-2, F.A.C.	Allowable <sup>3</sup> Emission lbs/hr	Potential Emission <sup>4</sup>		Relate to Flow Diagram
	Maximum lbs/hr	Actual T/yr			lbs/hr	T/yr	
Particulate	308 lbs/hr from wood (2)		BACT	BACT	560		Vent 10-6 & T-1
	12.5 lbs/hr from fossil fuel		BACT	BACT	12.5		Vent 10-6 & T-1

**D. Control Devices: (See Section V, Item 4)**

Name and Type (Model & Serial No.)	Contaminant	Efficiency	Range of Particles <sup>5</sup> Size Collected (in microns)	Basis for Efficiency (Sec. V, It <sup>5</sup> )
Peabody Venturi Scrubber Equipment No. 22-0450	Particulate	90%	N/A	Estimate (2)

<sup>1</sup> See Section V, Item 2.

<sup>2</sup> Reference applicable emission standards and units (e.g., Section 17-2.05(6) Table II, E. (1), F.A.C. - 0.1 pounds per million BTU heat input)

<sup>3</sup> Calculated from operating rate and applicable standard

<sup>4</sup> Emission, if source operated without control (See Section V, Item 3)

<sup>5</sup> If Applicable (2) See Attachment IV

E. Fuels

Type (Be Specific)	Consumption*		Maximum Heat Input (MMBTU/hr)
	avg/hr	max./hr	
Natural Gas		120 MCF	125 MMBTU
or #6 Fuel Oil		856 gals.	125 MMBTU
and Wood Fines		14,530 lbs.	130 MMBTU

\*Units: Natural Gas, MMCF/hr; Fuel Oils, barrels/hr; Coal, lbs/hr

Fuel Analysis: No. 6 Fuel Oil

Percent Sulfur: Maximum 2.53 Percent Ash: (3)

Density: 8.1 lbs/gal Typical Percent Nitrogen: (3)

Heat Capacity: 18,395 BTU/lb 149,000 BTU/gal

Other Fuel Contaminants (which may cause air pollution): Wood Fines (8,945 BTU/lb. B.D. basis) (4)

(3) No. 6 Fuel Oil meets ASTM specifications.

F. If applicable, indicate the percent of fuel used for space heating. Annual Average: N/A Maximum: \_\_\_\_\_

G. Indicate liquid or solid wastes generated and method of disposal.

Liquid waste goes to primary and secondary treatment. Solid waste to landfill.

H. Emission Stack Geometry and Flow Characteristics (Provide data for each stack): Vents 10-6/T-1

Stack Height: 225/170 ft. Stack Diameter: 13/3.5 ft.

Gas Flow Rate: 440,890/23,000 ACFM Gas Exit Temperature: 219/155 °F.

Water Vapor Content: 22.9/28.5 % Velocity: 55.4/39.7 FPS

SECTION IV: INCINERATOR INFORMATION  
NOT APPLICABLE

Type of Waste	Type O (Plastics)	Type I (Rubbish)	Type II (Refuse)	Type III (Garbage)	Type IV (Pathological)	Type V (Liq & Gas By-prod.)	Type VI (Solid By-prod.)
Lbs/hr Incinerated							

Description of Waste \_\_\_\_\_

Total Weight Incinerated (lbs/hr) \_\_\_\_\_ Design Capacity (lbs/hr) \_\_\_\_\_

Approximate Number of Hours of Operation per day \_\_\_\_\_ days/week \_\_\_\_\_

Manufacturer \_\_\_\_\_

Date Constructed \_\_\_\_\_ Model No. \_\_\_\_\_

OER FORM 17-1.122(16) Page 4 of 10 (4) See Attachment III

	Volume (ft) <sup>3</sup>	Heat Release (BTU/hr)	Fuel		Temperature (°F)
			Type	BTU/hr	
Primary Chamber					
Secondary Chamber					

Stack Height: \_\_\_\_\_ ft. Stack Diameter \_\_\_\_\_ Stack Temp. \_\_\_\_\_  
 Gas Flow Rate: \_\_\_\_\_ ACFM \_\_\_\_\_ DSCFM\* Velocity \_\_\_\_\_ FPS

\*If 50 or more tons per day design capacity, submit the emissions rate in grains per standard cubic foot dry gas corrected to 50% excess air.

Type of pollution control device:  Cyclone  Wet Scrubber  Afterburner  Other (specify) \_\_\_\_\_

Brief description of operating characteristics of control devices: \_\_\_\_\_

Ultimate disposal of any effluent other than that emitted from the stack (scrubber water, ash, etc.): \_\_\_\_\_

**SECTION V: SUPPLEMENTAL REQUIREMENTS**

Please provide the following supplements where required for this application.

1. Total process input rate and product weight – show derivation. (5)
2. To a construction application, attach basis of emission estimate (e.g., design calculations, design drawings, pertinent manufacturer's test data, etc.) and attach proposed methods (e.g., FR Part 60 Methods 1, 2, 3, 4, 5) to show proof of compliance with applicable standards. To an operation application, attach test results or methods used to show proof of compliance. Information provided when applying for an operation permit from a construction permit shall be indicative of the time at which the test was made. (5) FR Part 60 Methods 1, 2, 3, 4, 5, 6, 7, 9, & 25 will be used to evaluate test program for opacity, particulate, SO<sub>2</sub>, NO<sub>x</sub>, CO, and C<sub>x</sub>H<sub>y</sub>.
3. Attach basis of potential discharge (e.g., emission factor, that is, AP42 test). (5)
4. With construction permit application, include design details for all air pollution control systems (e.g., for baghouse include cloth to air ratio; for scrubber include cross-section sketch, etc.). (5)
5. With construction permit application, attach derivation of control device(s) efficiency. Include test or design data. Items 2, 3, and 5 should be consistent: actual emissions = potential (1-efficiency). (5)
6. An 8 1/2" x 11" flow diagram which will, without revealing trade secrets, identify the individual operations and/or processes. Indicate where raw materials enter, where solid and liquid waste exit, where gaseous emissions and/or airborne particles are evolved and where finished products are obtained. (6) Confidential
7. An 8 1/2" x 11" plot plan showing the location of the establishment, and points of airborne emissions, in relation to the surrounding area, residences and other permanent structures and roadways (Example: Copy of relevant portion of USGS topographic map). (7)
8. An 8 1/2" x 11" plot plan of facility showing the location of manufacturing processes and outlets for airborne emissions. Relate all flows to the flow diagram. (8)

DEA FORM 17-1.122(16) Page 5 of 10  
 (5) See Attachments I-IV  
 (6) See Attachment II - Confidential  
 (7) See Attachment V  
 (8) See Attachments VI A & B

- 9. An application fee of \$20, unless exempted by Section 17-4.05(3), F.A.C. The check should be made payable to the Department of Environmental Regulation.
- 10. With an application for operation permit, attach a Certificate of Completion of Construction indicating that the source was constructed as shown in the construction permit.

**SECTION VI: BEST AVAILABLE CONTROL TECHNOLOGY**

A. Are standards of performance for new stationary sources pursuant to 40 C.F.R. Part 60 applicable to the source?  
 Yes  No

Contaminant	Rate or Concentration

B. Has EPA declared the best available control technology for this class of sources (if yes, attach copy)  Yes  No

Contaminant	Rate or Concentration

C. What emission levels do you propose as best available control technology?

Contaminant	Rate or Concentration
<u>To be determined as part of the test program.</u>	

D. Describe the existing control and treatment technology (if any). (9)

- 1. Control Device/System:
- 2. Operating Principles:
- 3. Efficiency: \* N/A
- 4. Capital Costs: N/A
- 5. Useful Life: N/A
- 6. Operating Costs: N/A
- 7. Energy: N/A
- 8. Maintenance Cost: N/A
- 9. Emissions:

Contaminant	Rate or Concentration

\*Explain method of determining D 3 above.

(9) See Attachment III

10. Stack Parameters

- |               |      |                 |     |
|---------------|------|-----------------|-----|
| a. Height:    | ft.  | b. Diameter:    | ft. |
| c. Flow Rate: | ACFM | d. Temperature: | °F  |
| e. Velocity:  | FPS  |                 |     |

E. Describe the control and treatment technology available (As many types as applicable, use additional pages if necessary).

1.

- a. Control Device: Electrostatic Precipitator
- b. Operating Principles: Collection of particulate matter using electrical potential.
- c. Efficiency\*: Unknown (95 - 99.1%)
- d. Capital Cost: \$2.5 - 3.0 MM
- e. Useful Life: 10 - 20 years
- f. Operating Cost: Relatively low
- g. Energy\*: Relatively low
- h. Maintenance Cost: Relatively high
- i. Availability of construction materials and process chemicals: Good.
- j. Applicability to manufacturing processes: Potential for fires - Availability of test unit unknown.
- k. Ability to construct with control device, install in available space, and operate within proposed levels: Probably inadequate space available.

2.

- a. Control Device: Gravel bed filter (dry scrubber)
- b. Operating Principles: Filtration
- c. Efficiency\*: Unknown
- d. Capital Cost: \$2 MM
- e. Useful Life: 5 - 10 years
- f. Operating Cost: Relatively high
- g. Energy\*\*: Relatively moderate
- h. Maintenance Costs: Relatively high
- i. Availability of construction materials and process chemicals: Good
- j. Applicability to manufacturing processes: Efficiency is questionable - No test unit available  
Availability unknown.
- k. Ability to construct with control device, install in available space, and operate within proposed levels: Probably inadequate space available.

\*Explain method of determining efficiency.

\*\*Energy to be reported in units of electrical power - KWH design rate:

3.

- a. Control Device: Wet venturi scrubber
- b. Operating Principles: Kinetic energy is used to collect particulate matter through the principle of impaction.
- c. Efficiency\*: 90 - 99%
- d. Capital Cost: \$1 MM
- e. Life: 10 - 20 years
- f. Operating Cost: Relatively high
- g. Energy: Relatively high
- h. Maintenance Cost: Relatively low

\*Explain method of determining efficiency above.

- i. Availability of construction materials and process chemicals: Good
  - j. Applicability to manufacturing processes: Good - Existing scrubber available for test.
  - k. Ability to construct with control device, install in available space and operate within proposed levels: Adequate available space.
- 4.
- a. Control Device Bag house
  - b. Operating Principles: Particulate matter is collected through the principle of filtration.
  - c. Efficiency\*: 99<sup>+</sup>%
  - d. Capital Cost: \$1.75 MM
  - e. Life: Questionable - Potential for fires
  - f. Operating Cost: Relatively low
  - g. Energy: Relatively low
  - h. Maintenance Cost: Relatively high (fires)
  - i. Availability of construction materials and process chemicals: Good
  - j. Applicability to manufacturing processes: Imminent potential for fires
  - k. Ability to construct with control device, install in available space, and operate within proposed levels: Probably inadequate space.

F. Describe the control technology selected: (10)

- 1. Control Device: Side stream venturi scrubber for test.
- 2. Efficiency\*: 90%
- 3. Capital Cost: Existing unit
- 4. Life: 2 years
- 5. Operating Cost: Variable - Moderate
- 6. Energy: 9 - 15"  $\Delta P$
- 7. Maintenance Cost: Moderate - Low
- 8. Manufacturer: Peabody
- 9. Other locations where employed on similar processes: None - innovative technology

a.

- (1) Company:
- (2) Mailing Address:
- (3) City:
- (4) State:
- (5) Environmental Manager:
- (6) Telephone No.:

\*Explain method of determining efficiency above.

- (7) Emissions\*:

Contaminant	Rate or Concentration

- (8) Process Rate\*:

b.

- (1) Company:
- (2) Mailing Address:
- (3) City:
- (4) State:

\*Applicant must provide this information when available. Should this information not be available, applicant must state the reason(s) why.

(5) Environmental Manager:

(6) Telephone No.:

(7) Emissions\*:

Contaminant	Rate or Concentration
_____	_____
_____	_____
_____	_____

(8) Process Rate\*:

10. Reason for selection and description of systems: Existing side stream wet venturi scrubber available for test.

\*Applicant must provide this information when available. Should this information not be available, applicant must state the reason(s) why.

SECTION VII - PREVENTION OF SIGNIFICANT DETERIORATION

A. Company Monitored Data

1. \_\_\_\_\_ no sites \_\_\_\_\_ TSP \_\_\_\_\_ ( ) SO<sub>2</sub> \_\_\_\_\_ Wind spd/dir  
 Period of monitoring \_\_\_\_\_ / \_\_\_\_\_ / \_\_\_\_\_ to \_\_\_\_\_ / \_\_\_\_\_ / \_\_\_\_\_  
 month day year month day year

Other data recorded \_\_\_\_\_

Attach all data or statistical summaries to this application.

2. Instrumentation, Field and Laboratory

a) Was instrumentation EPA referenced or its equivalent? \_\_\_\_\_ Yes \_\_\_\_\_ No

b) Was instrumentation calibrated in accordance with Department procedures? \_\_\_\_\_ Yes \_\_\_\_\_ No \_\_\_\_\_ Unknown

B. Meteorological Data Used for Air Quality Modeling

1. \_\_\_\_\_ Year(s) of data from \_\_\_\_\_ / \_\_\_\_\_ / \_\_\_\_\_ to \_\_\_\_\_ / \_\_\_\_\_ / \_\_\_\_\_  
 month day year month day year

2. Surface data obtained from (location) 1964 Tallahassee, Valdosta 1972-76

3. Upper air (mixing height) data obtained from (location) 1964. Montgomery, Waycross 72-76

4. Stability wind rose (STAR) data obtained from (location) Not used

C. Computer Models Used

1. CRSTER 1 year 1964 Modified? If yes, attach description.

2. ISCST 5 years 1972-76 Modified? If yes, attach description.

3. \_\_\_\_\_ Modified? If yes, attach description.

4. \_\_\_\_\_ Modified? If yes, attach description.

Attach copies of all final model runs showing input data, receptor locations, and principle output tables.

D. Applicants Maximum Allowable Emission Data

Pollutant	Emission Rate	
TSP	59.45	grams/sec
SO <sub>2</sub>	N/A	grams/sec

E. Emission Data Used in Modeling

Attach list of emission sources. Emission data required is source name, description on point source (on NEDS point number), UTM coordinates, stack data, allowable emissions, and normal operating time. (11)

F. Attach all other information supportive to the PSD review.

\*Specify bubbler (B) or continuous (C).

G. Discuss the social and economic impact of the selected technology versus other applicable technologies (i.e., jobs, payroll, production, taxes, energy, etc.). Include assessment of the environmental impact of the sources. (12)

(11) See Attachment IV

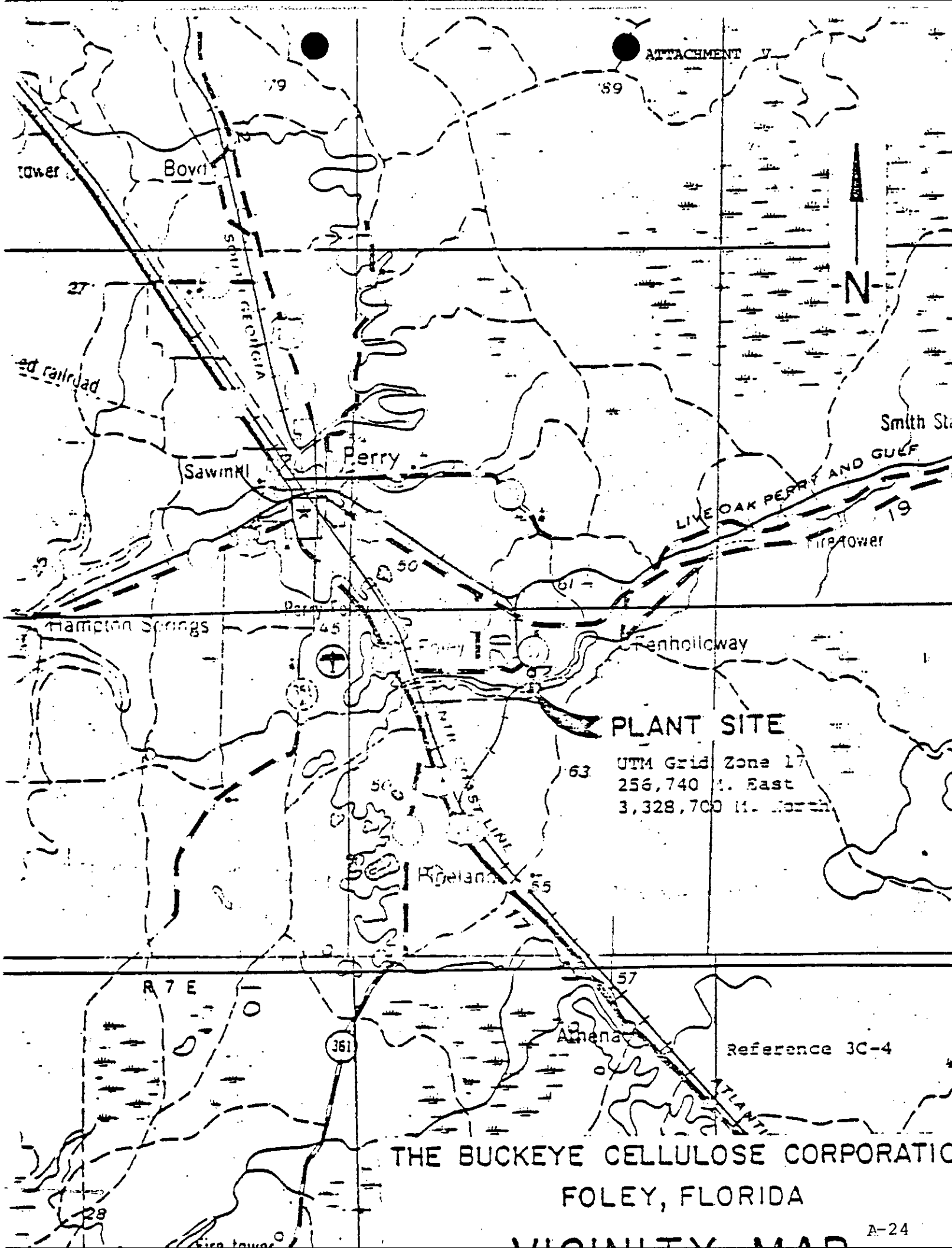
(12) See Attachment I

H. Attach scientific, engineering, and technical material, reports, publications, journals, and other competent relevant information describing the theory and application of the requested best available control technology.



LIST OF ATTACHMENTS FOR CONSTRUCTION PERMIT APPLICATION

- I. Letter to Ms. Vicki Tschinkel, April 27, 1981.  
Re: Petition for Experimental Testing & Research Program
- II. Letter to Mr. Doug Dutton, May 29, 1981.  
Re: Application for Experimental Burning of Wood Fines in an Oil Boiler
- III. Letter to Mr. Michael D. Harley, June 26, 1981.  
Re: "Fines Burning PSD Temporary Source Permit" with attachments.
- IV. Letter to Mr. Michael D. Harley, July 6, 1981.  
Re: "Fines Burning PSD Temporary Source Permit" with attachments
- V. 8 $\frac{1}{2}$ " x 11" plot plan of the Buckeye Cellulose Plant and the surrounding area.
- VI. (A & B) 8 $\frac{1}{2}$ " x 11" plot plan of the facility.
- VII. Letter to Mr. Larry George from Mr. Steven Marks  
Re: Five Year ISCST Model 1972-1976 with attachments
- VIII. Flow Chart for Test Schedule.
- IX. #1 Stack Allowable Particulate Emissions.



ATTACHMENT

79

89

tower

Boyd

SOUTH GEORGIA

27

ed railroad

Sawmill

Perry

Smith Sta

LIVE OAK PERRY AND GULF

Fire tower

N

Hampton Springs

Perry

Foy

Penholloway

PLANT SITE

UTM Grid Zone 17  
256,740 m. East  
3,328,700 m. North

Rigelana

R 7 E

361

Amenac

Reference 3C-4

THE BUCKEYE CELLULOSE CORPORATION  
FOLEY, FLORIDA

A-24

DWG. F.L.C. 1-868

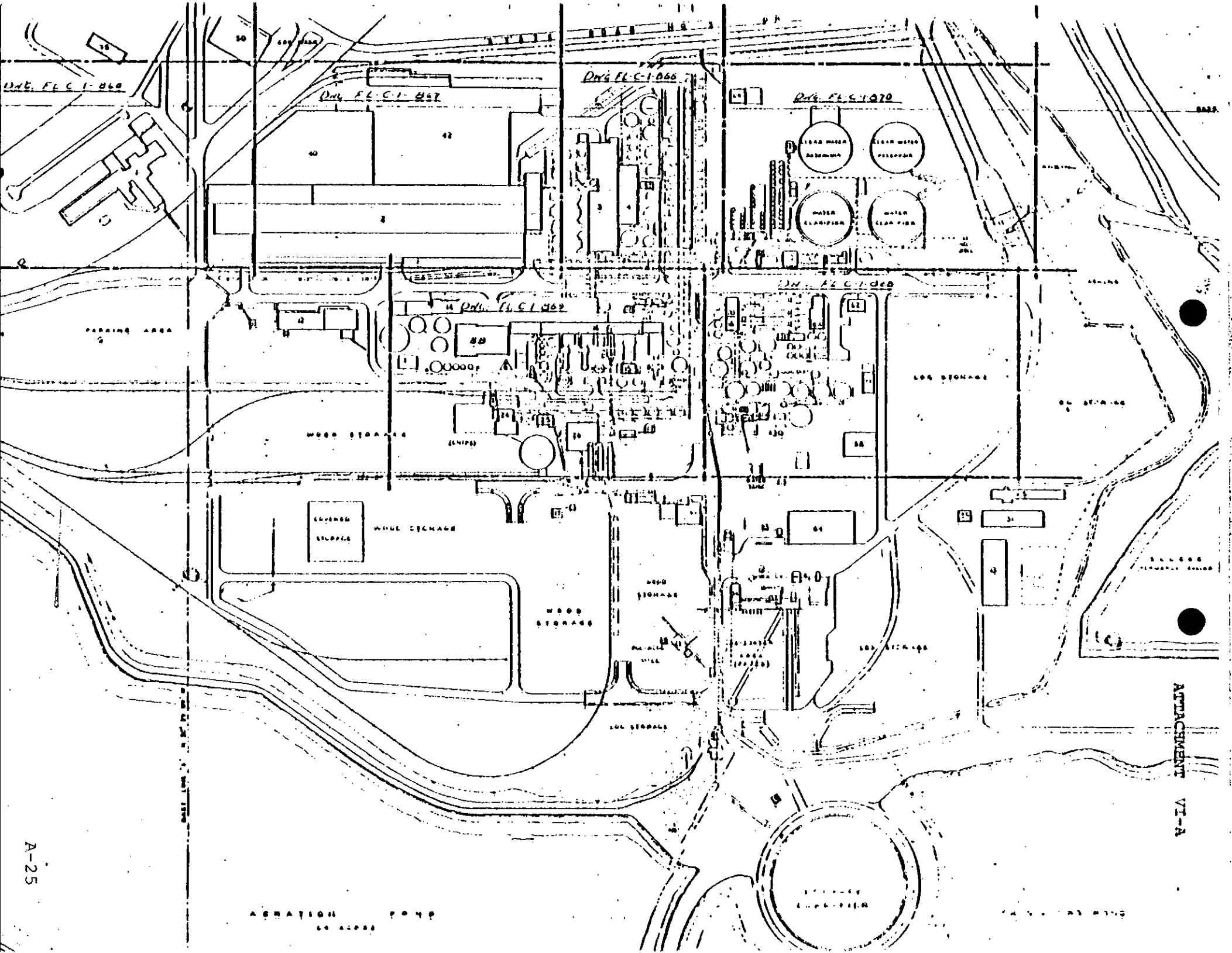
DWG. F.L.C. 1-867

DWG. F.L.C. 1-866

DWG. F.L.C. 1-870

DWG. F.L.C. 1-869

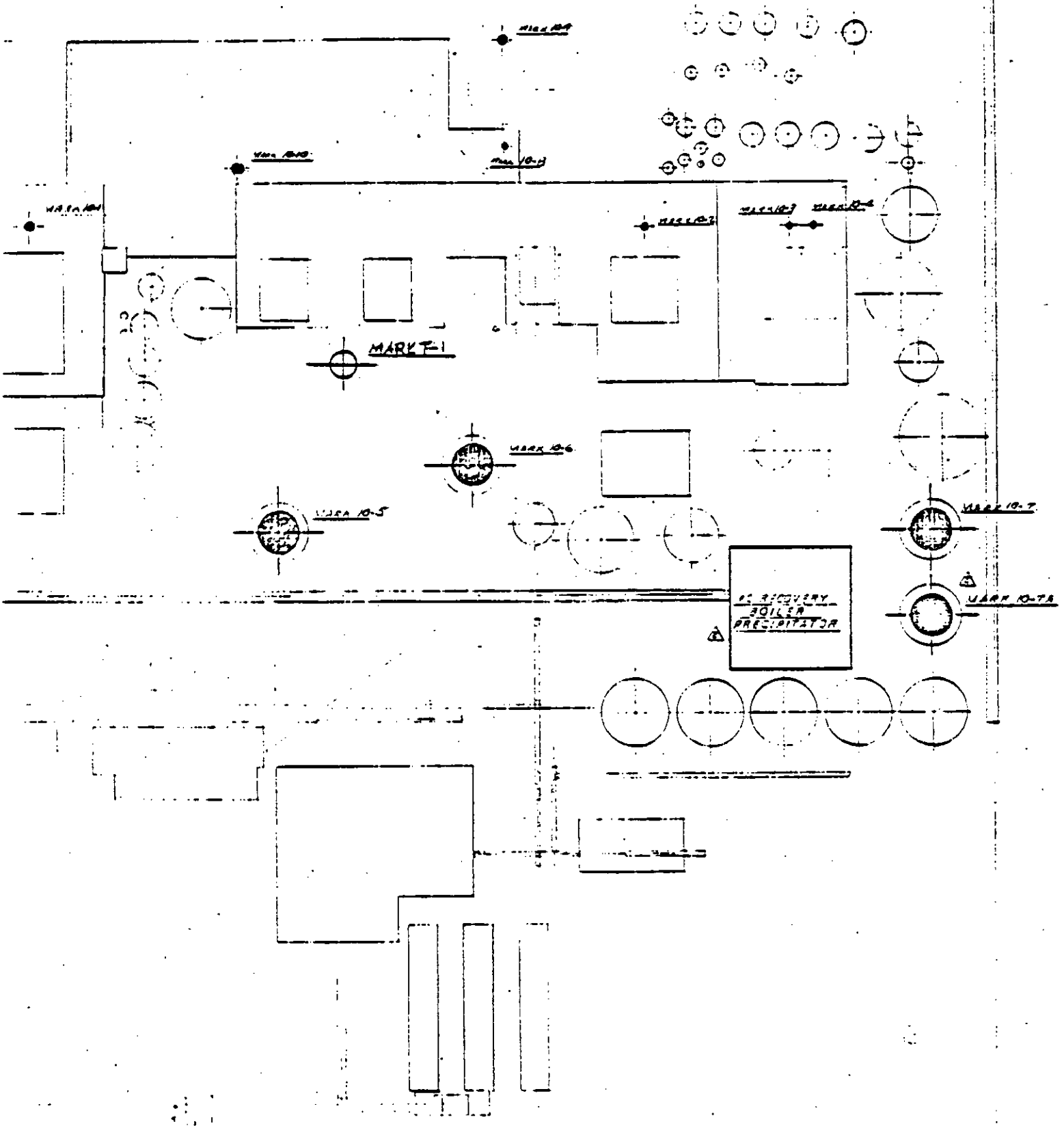
DWG. F.L.C. 1-868



A-25

ATTACHMENT VI-A

AGRIATION POND



THE SUGAR CANE CENTRAL PROCESSING CO. LTD.  
SUGAR CANE CENTRAL PROCESSING CO. LTD.  
SUGAR CANE CENTRAL PROCESSING CO. LTD.

E. M. WATKINS & COMPANY  
1175  
1175  
1175

A-26

First in cellulose



# The Buckeye Cellulose Corporation

Mailing Address: Route 3 Box 260 Perry, Florida 32347 Phone: (904) 584-0121

October 26, 1981

Mr. Steve Smallwood, Chief  
Bureau of Air Quality Management  
Florida Department of Environmental Regulation  
Twin Towers Office Building  
2600 Blair Stone Road  
Tallahassee, FL 32301

Re: Fines Burning Permit Application

Dear Mr. Smallwood:

The subject application requested a permit to install the Fines Burning System on No. 2 Power Boiler. The purpose of this letter is to request an amendment to allow installation of the Fines Burning System on No. 1 Power Boiler.

As was discussed in our meeting in Perry on October 22, 1981, the two boilers are identical in design and the only change required in the permit is to replace "Power Boiler No. 2" with "Power Boiler No. 1".

The change will be an improvement in the control of the environmental impact of the proposed system because the old controls on No. 1 Power Boiler recently were replaced with new electronic controls which have been computerized. Also, the boiler has been rebricked.

As agreed by phone with Mr. Clair Fancy and in consideration of the amendment, we will extend the time limit for processing the permit from October 27, 1981, to November 2, 1981.

Your personal support and the cooperation of your staff in expediting this permit application are greatly appreciated. We are very optimistic that the results of the project will be significant in reducing consumption of fossil fuel.

Very truly yours,

THE BUCKEYE CELLULOSE CORPORATION

*John H. Millican*  
J. H. Millican

JHM/eph

Public Notice

The Florida Department of Regulation (FDER) has received an application from and intends to issue a construction permit to Buckeye Cellulose Corporation for the modification of a boiler to burn wood fines at the company's kraft pulp mill in Taylor County. The application requires Best Available Control Technology (BACT) as well as both State and Federal review for Prevention of Significant Deterioration (Chapter 403, Florida Statutes, and Federal Regulation, 40 CFR 52.21).

The modification will increase emissions of air pollutants by the following amounts, for a period of time not to exceed two years:

TSP	1240 tons/yr
CO	25 tons/yr

Having reviewed the proposed modification, the FDER has made a preliminary determination that the construction can be approved provided that certain conditions will be met. A summary of the basis for this determination and the application for State and Federal permits submitted by Buckeye Cellulose Corp. are available for inspection at the following DER offices:

Bureau of Air Quality Management	St. Johns River Subdistrict
Dept. of Environmental Regulation	3426 Bills Road
2600 Blair Stone Road	Jacksonville, Florida 32207
Tallahassee, Florida 32301	

Any person may submit written comments regarding the proposed modification. All comments, postmarked not later than 30 days from the date of this notice, will be considered in making a final determination regarding approval of construction of this source. These comments will be made available for public review on request. Furthermore, a public hearing can be requested by any person. Such a request should be submitted within 15 days of the date of this notice. Letters should be addressed to:

Mr. C. H. Fancy  
Department of Environmental Regulation  
2600 Blair Stone Road  
Tallahassee, Florida 32301