

DEPARTMENT OF ENVIRONMENTAL REGULATION

ROUTING AND TRANSMITTAL SLIP		ACTION NO.
		ACTION DUE DATE
1. TO: (NAME, OFFICE, LOCATION)	INITIAL	DATE
KAHEL STARNES		
2. BLOMMEL THOMAS - STE <i>PS</i>	INITIAL	DATE
3. BARKER GEORGE Hodges	INITIAL	DATE
4.	INITIAL	DATE
REMARKS: <p style="text-align: center;"><i>Note & File</i></p> <p style="text-align: center;"><i>Buckeye Cellulose</i></p> <p style="text-align: center;"><i>Federal PSD</i></p>	INFORMATION	
	REVIEW & REVIEW REVIEW & FILE INITIAL & FORWARD	
		DISPOSITION
		REVIEW & RESPONSE
		PREPARE RESPONSE
		FOR MY SIGNATURE
		FOR YOUR SIGNATURE
		LET'S DISCUSS
		SET UP MEETING
		INVESTIGATE & RPT
		INITIAL & FORWARD
		DISTRIBUTE
		CONCURRENCE
		FOR PROCESSING
		INITIAL & RETURN
FROM: STEVE SMALLWOOD <i>SSm</i>	DATE <i>4-10-80</i>	
		PHONE



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION IV

345 COURTLAND STREET
ATLANTA, GEORGIA 30308

APR 7 1980

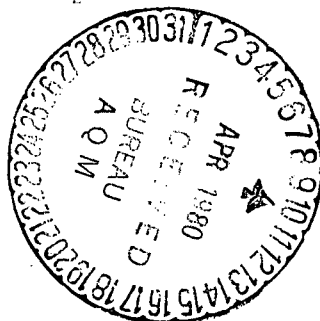
RECEIVED

APR 10 1980

4AH-AF

DEPT. OF
ENVIRONMENTAL REGULATION

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



Dear Mr. Smallwood:

Enclosed for your review and comment please find a second public notice regarding the Buckeye Cellulose Corporation's proposed fluid bed calciner at its Foley Plant. The public notice is to appear in the "Taco Times" in the near future.

Please let us know if you have any comments.

Sincerely yours,

K. Williams
acting
Tommie A. Gibbs, Chief
Air Facilities Branch

TAG:JLS:jt

Enclosure

PUBLIC NOTICE

(PSD-FL-020)

A new air pollution source (calciner) has been proposed by the Buckeye Cellulose Corporation for construction five miles southeast of Perry, Florida. This source was granted conditional approval to construct under Federal Prevention of Significant Deterioration (PSD) Regulations (40 CFR 52.21) following a previous public notice. Buckeye Cellulose has requested a revision to the conditions of approval specified in the announced Preliminary Determination such that the new calciner can be operated simultaneously with the three existing lime kilns. The requested revision increases total emissions from the source and the public is therefore afforded the opportunity to review the requested revision. EPA proposes a preliminary determination of approval for the requested change.

The total increment consumed by the proposed source under the requested revised conditions is as follows:

	<u>Class I</u>	<u>Increment</u>	<u>Class II</u>
Particulate Emissions			
24-hour	2%		27%
Annual	<1%		5%

An increment analysis for emissions of SO₂ was not required because the modeled ambient air impacts were less than the significance levels outlined in the Preamble to the PSD Regulations.

The emissions from the new calciner will not change; however, the existing #1 kiln will be permitted to operate simultaneously. No additional review requirements are necessary.

Any person may submit written comments to EPA and/or request a public hearing. To be considered, any comment must be postmarked not later than 30 days from the date of this notice, and any request for a public hearing should be submitted within 15 days of this notice to:

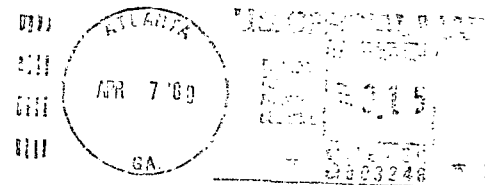
Mr. Tommie A. Gibbs, Chief
Air Facilities Branch
U.S. Environmental Protection
345 Courtland Street
Atlanta, Georgia 30308

A copy of all materials submitted by the applicant and a copy of the Preliminary Determination is available for inspection at the office of the City Clerk and Manager, Perry, Florida.

UNITED STATES
ENVIRONMENTAL PROTECTION AGENCY
REGION IV
345 COURTLAND STREET
ATLANTA, GEORGIA 30308

OFFICIAL BUSINESS
PENALTY FOR PRIVATE USE, \$300

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

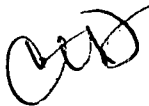


State of Florida
DEPARTMENT OF ENVIRONMENTAL REGULATION

INTEROFFICE MEMORANDUM

For Routing To District Offices And/Or To Other Than The Addressee		
To: _____	Loctn.: _____	
To: _____	Loctn.: _____	
To: _____	Loctn.: _____	
From: _____	Date: _____	
Reply Optional []	Reply Required []	Info. Only []
Date Due: _____	Date Due: _____	

TO: Doug Dutton

FROM: Clair Fancy 

DATE: February 15, 1984

SUBJ: Buckeye Cellulose Fluid Bed Calciner, PSD Permit
PSD-FL-0020

Per our discussion of yesterday, I have reviewed our almost illegible copy of the federal PSD determination (attached). Condition 1 states a particulate emission limit of .067 gr/dscf corrected to 10% oxygen while burning gaseous fossil fuel is burned. There are no other conditions relative to this, except when in the writeup they also mention 19.9 pounds per hour. Both of these values are to be calculated by averaging the three test runs. If they meet both values (I only consider the .067 gr/dscf a limit as it is a permit condition and the 19.9 lb/hr is not) go ahead and give them an operating permit. If the average of the pounds per hour does not meet the 19.9 figure, please let me know and I will contact EPA.

CF:jr
attachment

PSD-FL-0020
BUCKEYE CELLULOSE
PEARY

Final Determination

Review of a Proposed Air Pollution Source Pursuant to Environmental
Protection Agency Rules for the Prevention of Significant Deterioration (PSD)

40 CFR 52.21

New Fluid Bed Calciner

The Buckeye Cellulose Corporation
Perry, Florida

U.S. Environmental Protection Agency
345 Courtland Street, N.E.
-Atlanta, Georgia 30308

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I. Introduction

The Buckeye Cellulose Corporation has applied to the U.S. Environmental Protection Agency to construct a new fluid bed calciner (25,000 pound per hour product) at its Foley Plant, in Perry, Florida. The proposed construction is subject to review under 40 CFR 52.21, Regulations for the Prevention of Significant Deterioration (PSD). Under these regulations, a modification to a source of air pollution in any one of 28 specified categories which will increase the emission potential of that source by more than 100 tons per year of any pollutant, is subject to review for each of those pollutants. One of these categories is Kraft Pulp Mills of which the Foley Plant is one.

Paragraph (r) of the PSD regulations requires, in part, that EPA issue a Final Determination whether the source should be approved, approved with conditions, or disapproved. It is the decision of EPA that the source should be approved with conditions. The conditions are included to insure that the applicant complies with emission control techniques and emission limits which are a part of the application. The conditions of approval follow on the next page.

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Conditions for PSD Approval of Buckeye Cellulose Corporation's Proposed Calciner at the Foley Plant (Perry, FL)

As required pursuant to 40 CFR 52.21(d)(2)(ii), a review was conducted to determine if the proposed kraft pulp mill is applying best available control technology. Based on this review, it was determined that the applicant (Buckeye Cellulose Corporation) must meet emission limits for lime kilns as specified by the U.S. Environmental Protection Agency Standards of Performance for Kraft Pulp mills (40 CFR 60, Subpart BB). However, when liquid fossil fuel is burned in the proposed calciner, particulate emissions shall comply with applicable Florida regulations.

Condition 1. The calciner must meet an emission limit as follows:

Particulate Matter

Particulate matter emitted from the calciner shall comply with allowable Florida Department of Environmental Regulations (Chapter 17-2.05 (2), FAC) when liquid fossil fuel is burned. Particulate matter emitted from the calciner shall not exceed .15 grams per dry standard cubic meter (.067 grains per dry standard cubic foot) corrected to 10 percent oxygen, when gaseous fossil fuel is burned.

TRS

Total reduced sulfur (TRS) emitted from the calciner shall not exceed 8 ppm by volume on a dry basis, corrected to 10 percent oxygen.

Condition 2. Emission Testing

A. Within 60 days after achieving the maximum production rate at which the facility will be operated, but no later than 180 days after initial start-up, the owner or operator shall conduct performance tests and furnish EPA a written report of the results of such performance tests.

B. Performance tests shall be conducted and data reduced in accordance with methods and procedures specified by EPA. Reference Methods 1 through 5 as published in Appendix A of 40 CFR 60 will be used for particulate tests. Reference Method 16 will be used for TRS emission tests.

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C. Performance tests shall be conducted under such conditions as EPA shall specify based on representative performance of the facility. The owner or operator shall make available to EPA such records as may be necessary to determine the conditions of the performance tests.

D. The owner or operator shall provide EPA 30 days prior notice of the performance test to afford EPA the opportunity to have an observer present.

E. The owner or operator shall provide or cause to be provided, performance testing facilities as follows:

- a. Sampling ports adequate for test methods applicable to the facility.
- b. Safe sampling platform(s).
- c. Safe access to sampling platform(s).
- d. Utilities for sampling and testing equipment.

F. Each performance test shall consist of three separate runs using the applicable test method. Each run shall be conducted for the time and under the conditions specified by EPA. For the purpose of determining compliance with emission limitations, the arithmetic mean of results of the three runs shall apply. In the event that a sample is accidentally lost or conditions occur in which one of the three runs must be discontinued because of forced shutdown, failure of an irreplaceable portion of the sample train, extreme meteorological conditions, or other circumstances beyond the owner or operator's control, compliance may, upon the approval of EPA, be determined using the arithmetic mean of the results of the other two runs.

Condition 3. The new calciner will not operate unless one of the other three lime burning units (No.1 Kiln, No.2 Kiln, No.3 Kiln) is shut down.

Condition 4. The sulfur content of No. 6 fuel oil used will not exceed 2.5%.

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II. Background

On November 8, 1978, the Buckeye Cellulose Corporation applied to EPA under the PSD regulations to construct a new fluid bed calciner at the Foley Plant, while retiring existing No.1 lime kiln, to be used only as a stand by spare when the new fluid bed calciner is not operating. There are currently three existing lime kilns operating at the Foley Plant. The No. 1 lime kiln will not operate unless one of the three lime reburning units (No.2 kiln No.3 kiln, or the new fluid bed calciner) is shut down. On February 8, 1979, further information was submitted which completed the application. The proposed construction is subject to EPA Regulations for the Prevention of Significant Air Quality Deterioration promulgated on June 19, 1978.

On May 13, 1979, EPA advertized in the TACO Times its Preliminary Determination concerning the approval of the application, and invited comments on the determination.

The only comments received were from the applicant. One comment pointed out that the particulate emission limit of 0.15 grams per dry standard cubic meter was intended to apply only when gaseous fossil fuel was fired. This phrase was accidentally omitted from the emission limitation, and has been included in the final permit condition.

The other comment concerned the sentence in Section 4, page 8 of the Preliminary Determination regarding applicability of NSPS. The applicant stated that NSPS had already been promulgated for this

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category of source, so the part of the sentence referencing "any future promulgation" was not necessary. The sentence was meant to apply to any modification of the NSPS which affected this source, and so is retained in the Final Determination.

III Review Requirements

The pollutants for which potential emissions are greater than 100 tons per year, and therefore subject to review, are particulate matter and total reduced sulfur. Review of control technology and ambient impacts is required. For sources applying after August 7, 1978, ambient monitoring is required. Certain portions of the PSD review may not be required if the proposed modification is subject to EPA's Interpretative Ruling, or if the source is a nonprofit health or education institution, or if the source has previously received approval under PSD and is only relocated. None of these exemptions applies in this case.

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A. Control Technology Review

The applicant is required to install best available control technology (BACT) for each pollutant, taking into account energy, environmental and economic impacts and other costs. EPA concludes that the systems proposed by the applicant represent BACT for particulates and total reduced sulfur.

1. Particulate

The applicant will install a high efficiency venturi scrubber after two-stage cyclone collectors used to recover the product to control particulate emissions. EPA data gathered for the purpose of setting standards of performance for this source type indicate an emission limit of 0.13 gr/dscf at 10% oxygen (38.3 pounds per hour) when firing oil and 0.067gr/dscf at 10% oxygen (19.9 pounds per hour) when burning gas is achievable. Since the applicant has proposed emission limits more stringent than this, the proposed limits are based on data submitted by the applicant. The 26.2 pounds per hour proposed are required under the rules of Florida's Department of Environmental Regulation Process Weight Table (17-2.05(2) F.A.C.). The use of a bagfilter instead of a venturi scrubber was investigated and although it is energy efficient, it has numerous deficiencies which dropped it from consideration. First, a bagfilter will not provide any scrubbing of either sulfur dioxide or total reduced sulfur emissions which is an important benefit obtained with a venturi scrubber. Second, the high sodium and moisture content in the pulp mill mud feed may result in a stickier particulate which would make bag cleaning difficult and would contribute to more rapid deterioration of the bags.

In regards to using a higher energy venturi scrubber instead of the current design efficiency of 99.6%, the environmental benefits obtained would not justify the increased energy usage. In addition, it has not been demonstrated that venturi scrubbers will economically reduce particulate emissions below the level required by the Florida regulations.

2. Total reduced sulfur

Based on industry experience, potential emissions can exceed 100 tons per year if adequate mud washing and filtration facilities are not available. This proposed construction includes the installation of both a new mud washer and new mud filter. Other factors in kiln operation can influence total reduced sulfur emissions and for this reason good process control of the lime reburning unit is required. Adequate mud washing, mud filtration, and good process control are identified as the technology to achieve NSPS for TRS in the "Standards Support and Environmental Impact Statement-Vol II: Propagated Standards of Performance for Kraft Pulp Mills".

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Total reduced sulfur emissions will be limited to 1.6 pounds per hour by the Federal New Source Performance Standard of 3ppm total reduced sulfur by volume on a dry basis corrected to 10% oxygen.

There will be a substantial reduction in total reduced sulfur emissions from 90 pounds per hour to 1.6 pounds per hour as a result of the replacement of the No. 1 lime kiln with the new fluid bed calciner.

3. Sulfur Dioxide

Based on industry experience, the potential sulfur dioxide emissions are minimal. Sulfur dioxide generated by the burning of fuel oil will combine stoichiometrically with the calcium and sodium salts in the calciner. This reaction will occur since the salts are strong alkalies and sulfur dioxide is a strong acid.

The maximum mud feed of 49,378 bone dry pounds per hour is the equivalent of 27,652 pounds of lime per hour. The maximum No.6 fuel oil (2.5% sulfur) usage is estimated to be 5,137 pounds per hour or 256 pounds per hour of sulfur dioxide generated. Since calcium will combine mol for mol with sulfur it can be seen that more than adequate lime is available to combine with the sulfur dioxide.

4. Applicability of NSPS

EPA has adopted New Source Performance Standards Kraft pulp mills. In general, the standards are less stringent than the conditions of this approval, in regards to particulate emissions while burning No.6 oil and equivalent when burning gas. The standards are also equivalent for total reduced sulfur emissions. Any future promulgation which applies to the new fluid bed calciner and is more stringent than any condition of approval will supersede the conditions of approval.

B. Impact Review

The PSD regulations require the following air quality impacts to be assessed by the applicant:

- 1) National Ambient Air Quality Standards (NAAQS)
- 2) PSD increments
- 3) Visibility, soils and vegetation
- 4) Impacts due to growth caused by proposed source

Air quality modelling showed no violations of the NAAQS with all facilities at the Foley Plant in operation. Likewise, the PSD increment analysis showed no violations with the new fluid bed calciner operating at maximum load, and one of the other three lime reburning units shut down.

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The percent consumption of the PSD increments caused by the new fluid bed calciner is presented in the following table:

Particulate Increment Consumption

	<u>Class II</u>	<u>Class I</u>
Annual	0	<1%
24 Hour	0	1%

Impacts on visibility, soils and vegetation and on air quality due to growth were judged to be minimal.

The closest Class I area is St. Marks National Wildlife Refuge about 45 km from Foley. The percent consumption of PSD Class I increments caused by the new fluid bed calciner is presented in the previous table.

The impact on the National Ambient Air Quality Standards is presented in the following table:

Impact on Particulate National Ambient Air Quality Standards ($\mu\text{g}/\text{m}^3$)

	<u>Impact</u>	<u>Standard</u>
Annual	41.65*	75
24-hour	96.2*	150

*35 $\mu\text{g}/\text{m}^3$ used as background. Preconstruction monitoring was not required since this is a remote source and the source has been shown to be no threat to NAAQS. In addition, monitoring (no EPA audit) performed by the source from 1970 to 1976 has shown no levels above 30 $\mu\text{g}/\text{m}^3$. Since 1970 particulate emissions at the Foley plant have been reduced from 2786 pounds per hour to 550 pounds per hour. Also, all four lime reheating units were considered operating.

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APPENDIX A

Review of particulate emission data from a lime kiln (oil fired) controlled by a venturi scrubber indicate that low emissions (.072 gr/dscf) have been achieved with a pressure drop of approximately 18 inches of water.

The proposed calciner at Buckeye Cellulose will utilize a 25 inch pressure drop venturi scrubber and will have to achieve approximately .09 gr/dscf (while firing fuel oil) to meet the Florida Department of Environmental Regulations's requirements.

Although we will not know if the proposed calciner will achieve the required particulate emission rates until after the calciner is operating and has been source tested, we have no reason to believe at this time that the calciner will not meet the required particulate emission limit.

Reference: Standards Support and Environmental Impact Statement
Volume I: Proposed Standards of Performance for Kraft Pulp Mills
prepared by U.S.E.P.A., Office of Air Quality Planning and Standards,
Research Triangle Park, N.C. 27711, page 6-26.