



Lawton Chiles
Governor

Florida Department of Environmental Protection

Twin Towers Office Building
2600 Blair Stone Road
Tallahassee, Florida 32399-2400

Virginia B. Wetherell
Secretary

December 14, 1993

CERTIFIED MAIL - RETURN RECEIPT REQUESTED

Mr. Hollis H. Elder
Vice President and General Manager
Jefferson-Smurfit Corporation
Post Office Box 150
Jacksonville, Florida 32201

Re: Permit Application for Modification
AC 16-234532 (PSD-FL-207)
No. 10 Power Boiler

Dear Mr. Elder:

Your responses to our October 12, 1993 incompleteness letter were received on November 19, 1993. Our review of the responses determined that the information/request you provided as an alternative to the Best Available Control Technology (BACT) determination for NO_x raised issues requiring additional information. When this information is received we will continue processing the application.

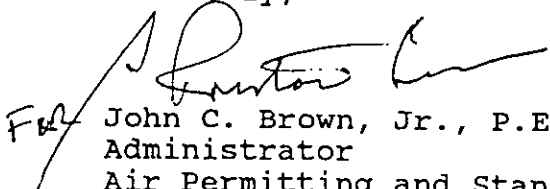
On November 29, 1993 U.S. EPA., Region IV (refer to attached letter) was asked to determine if a construction permit can be issued with a "temporary interim emission rate" which exceeds the significant emission rate for NO_x (40 TPY) without being subject to PSD/BACT determination for NO_x and modeling.

The application will be considered incomplete until EPA's determination is received or the request in your October 12, 1993 response letter is withdrawn.

Mr. Hollis H. Elder
Jefferson-Smurfit Corporation
AC 16-234532 (PSD-FL-207)
Permit Modification
December 14, 1993
Page 2 of 2

If you have any questions, please call Preston Lewis or
Charles Logan at (904)488-1344, or write to me at the above
address.

Sincerely,


John C. Brown, Jr., P.E.
Administrator
Air Permitting and Standards

JCB/CSL

cc: J. Cole, NE. Dist.
R. Roberson, DCRESO
G. Tonn, JSC
J. Manning, P.E.
J. Harper, U.S. EPA.
J. Bunyak, NPS
B. Collom, GAPC

Is your RETURN ADDRESS completed on the reverse side?

SENDER: <ul style="list-style-type: none"> • Complete items 1 and/or 2 for additional services. • Complete items 3, and 4a & b. • Print your name and address on the reverse of this form so that we can return this card to you. • Attach this form to the front of the mailpiece, or on the back if space does not permit. • Write "Return Receipt Requested" on the mailpiece below the article number. • The Return Receipt will show to whom the article was delivered and the date delivered. 		I also wish to receive the following services (for an extra fee): 1. <input type="checkbox"/> Addressee's Address 2. <input type="checkbox"/> Restricted Delivery Consult postmaster for fee.	
3. Article Addressed to: Mr. Hollis H. Elder Vice President & General Mgr. Jefferson-Smurfit Corporation Post Office Box 150 Jacksonville, Florida 32201		4a. Article Number P 872 562 509	
		4b. Service Type <input type="checkbox"/> Registered <input type="checkbox"/> Insured <input checked="" type="checkbox"/> Certified <input type="checkbox"/> COD <input type="checkbox"/> Express Mail <input type="checkbox"/> Return Receipt for Merchandise	
		7. Date of Delivery 12-20-93	
5. Signature (Addressee)		8. Addressee's Address (Only if requested and fee is paid)	
6. Signature (Agent) <i>Vince Elder</i>			

Thank you for using Return Receipt Service.

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

P 872 562 509



Receipt for Certified Mail

No Insurance Coverage Provided
 Do not use for International Mail
 (See Reverse)

PS Form 3800, JUNE 1991

Sent to Mr. Hollis H. Elder	
Street and No. P. O. Box 150	
P.O., State and ZIP Code Jacksonville, FL 32201	
Postage	\$
Certified Fee	
Special Delivery Fee	
Restricted Delivery Fee	
Return Receipt Showing to Whom & Date Delivered	
Return Receipt Showing to Whom, Date, and Addressee's Address	
TOTAL Postage & Fees	\$
Postmark or Date Mailed: 12/14/93 AC 16-234532 (PSD-FL-207)	



Lawton Chiles
Governor

Florida Department of Environmental Protection

Twin Towers Office Building
2600 Blair Stone Road
Tallahassee, Florida 32399-2400

Virginia B. Wetherell
Secretary

November 29, 1993

Ms. Jewell Harper, Chief
Air Enforcement Branch
U.S. EPA., Region IV
345 Courtland Street, N.E.
Atlanta, Georgia 30365

Dear Ms. Harper:

This letter serves to follow up a telephone conversation with Mr. Scott Davis regarding a request by Jefferson Smurfit Corporation (JSC) to modify an air construction permit. The modification would increase the maximum heat input of the No. 10 boiler at their Jacksonville facility from 441 MMBtu/hr to 540 MMBtu/hr. In conjunction with this increase in heat input JSC has agreed to decrease their maximum allowable NO_x emissions rate from 308.7 lb/hr, which is their current allowable, to a new emission rate of 274.9 lb/hr, which is 39.9 tons per year above their current actual. JSC has requested that they be allowed to operate at a temporary interim NO_x emission rate which will not exceed their current allowable of 308.7 lb/hr while determining and implementing the appropriate NO_x controls (refer to attachment). JSC will decrease the NO_x emissions to the permit allowable of 274.9 lb/hr during the term of the permit which will not exceed 18 months. It should be noted that 308.7 lb/hr is 188.1 tons per year above the past actuals.

We have requested a determination from EPA as to whether or not we can issue a construction permit with a temporary interim emission rate, which is greater than the significant NO_x emission rate of 40 tons per year, without following the PSD permit process, including a BACT determination. We would appreciate a response as soon as possible and if you have any questions please call Charles Logan at (904)488-1344.

Sincerely,

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

Attachment
CHF/csl



JEFFERSON SMURFIT CORPORATION

November 11, 1993

Containerboard Mill Division

1915 WIGMORE STREET
P.O. BOX 150
JACKSONVILLE, FL 32201
TELEPHONE: 904/353-3611

CERTIFIED MAIL - RETURN RECEIPT REQUESTED

Mr. Clair H. Fancy, P.E., Chief
Bureau of Air Regulations
Division of Air Resources Management
Florida Department of Environmental Protection
2600 Blair Stone Road
Tallahassee, Florida 32399-5400

RECEIVED

NOV 10 1993

Division of Air
Resources Management

SUBJECT: NO. 10 COAL/BARK BOILER
PERMIT NO. AO16-185036
JEFFERSON SMURFIT CORPORATION
JACKSONVILLE MILL

Dear Mr. Fancy:

After carefully considering comments from your staff and other information available to us, we have reassessed our position on controlling NO_x emission from No. 10 Boiler. By this letter we are revising our application to modify the construction and operation permits for the subject boiler.

Since it has become clear that some reduction of NO_x emission is appropriate to complete this modification, we propose a new NO_x emission limit of 274.9 lb/hr and 1203.9 tons/year, which equates to a rate of 0.51 lb/MMBtu at 540 MMBtu/hr heat input. This is a reduction of 148.2 tons/year from the current allowable emissions, and an increase of less than 40 tons/year from current actual emissions as supported by the attached calculations. Since this would not be a significant net emissions increase as defined in FAC 17-212.400(2)(e)2., the modification would not be subject to PSD/BACT review for NO_x.

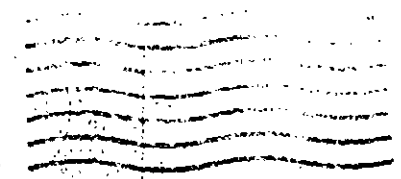
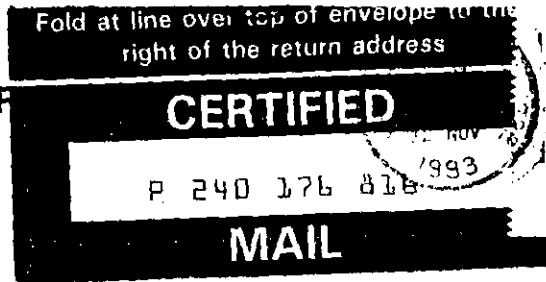
To meet this tighter NO_x emission limit, Jefferson Smurfit Corporation (JSC) may have to implement new NO_x control measures on the boiler, which at this time has not been determined. As you know, the selection and installation process for new control measures requires a thorough evaluation of the options available; the appropriation of the money for the project once an option is selected; and time for the engineering, installation if necessary, debugging, and testing. The entire process may take up to 18 months, depending on the technology selected.

As you recall, the main reason for this modification is one of economics critical to the



JEFFERSON SMURFIT CORP

1915 WIGMORE STREET, P.O. BOX 150, JACKSONVILLE, FL 32201



CERTIFIED MAIL - RETURN RECEIPT REQUESTED

Mr. Clair H. Fancy, P.E., Chief
Bureau of Air Regulations
Division of Air Resources Management
Florida Department of Environmental Regulation
2600 Blair Stone Road
Tallahassee, Florida 32399-5400

33742-4012



No. 10 Coal/Bark Boiler
Permit No. AO16-185036
Jefferson Smurfit Corp.
PAGE 2

future operation of this mill. With this in mind, we urgently request that JSC be allowed to operate No. 10 Boiler at the requested higher heat input rate of 540 MMBtu/hr until an appropriate NO_x control measure is determined and implemented. During this interim period not to exceed 18 months from the date the permit is issued, we would agree to operate within the current allowable emission rate of 308.7 lb/hr and 0.7 lb/MMBtu, as set for the current maximum heat input rate.

In researching information relating to this project, we have found a lack of clear guidance on projecting NO_x emissions from combination coal/bark-fired boilers. Emission factors in AP-42 address the generation of NO_x for each fuel separately, but do not address the effects of mixing the fuels at varying ratio on the generation of NO_x.

In order to characterize the NO_x emissions from this specific boiler under the proposed operating conditions, we request that JSC be permitted to immediately begin operating the No. 10 Boiler at the requested higher heat input rate of 540 MMBtu/hr until the modified construction permit is issued. This interim time period will allow JSC to learn to operate the boiler under the new operating conditions and to conduct NO_x emission tests to clearly define the emission rates prior to beginning the evaluation of the various NO_x control systems. Because the increase in heat input will be from bark and because burning bark results in low NO_x emissions, we anticipate that NO_x emissions will not increase significantly, if at all, during this testing period.

We sincerely appreciate DEP's assistance throughout this process. We believe that this revision to our application will resolve all outstanding issues and that the permits can be processed without further delay.

Sincerely,



Hollis H. Elder
Vice President & General Manager

CR# P 240 176 816

td:\permits\#10revis.ltr

cc: C. Fogar
C. Halladay
P. Lewis
J. Cole, NE Dist
P. Robinson, Jural Co.
G. Harper, EPA
J. Burnham, NPS

Jefferson-Smurfit Corporation

No. 10 Boiler

NOx Emission Calculations

Current Actual Emissions -

$$E = \frac{274.89 \text{ lb}}{\text{hr}} \times \frac{8,742 \text{ hr}}{\text{yr}} \times \frac{\text{ton}}{2,000 \text{ lb}} = \frac{1,164 \text{ tons}}{\text{yr}}$$

Future Allowable Emissions -

$$E = \left[\frac{1,164 \text{ tons}}{\text{yr}} + \frac{39.9 \text{ tons}}{\text{yr}} \right] \times \frac{\text{yr}}{8,760 \text{ hr}} \times \frac{2,000 \text{ lb}}{\text{ton}} = \frac{274.9 \text{ lb}}{\text{hr}}$$

(or) 0.51 lb/MMBtu at the maximum heat input rate of 540 MMBtu/hr.



Lawton Chiles
Governor

Florida Department of Environmental Protection

Twin Towers Office Building
2600 Blair Stone Road
Tallahassee, Florida 32399-2400

Virginia B. Wetherell
Secretary

October 12, 1992 ^{71rr6}

CERTIFIED MAIL - RETURN RECEIPT REQUESTED

Mr. Hollis H. Elder
Vice President and General Manager
Jefferson-Smurfit Corporation
Post Office Box 150
Jacksonville, Florida 32201

Re: Permit Application for Modification
AC 16-234532 (PSD-FL-207)
No. 10 Power Boiler

Dear Mr. Elder:

Your responses to our August 13, 1993 incompleteness letter were received on September 20, 1993. Subsequent to our review of the responses it was determined that the information you provided for the Best Available Control Technology (BACT) for NO_x was incomplete. On October 8, 1993 we received additional information, which was requested during a telephone call, concerning the BACT for NO_x. The information is not adequate to complete the a BACT determination.

To continue our review of the subject application provide us with the following information:

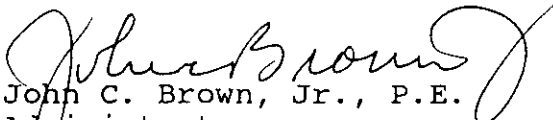
- 1) Additional detail in the cost analysis showing the specific costs used to derive the \$900 per ton of NO_x removed. The cost analysis should follow the general procedures specified in the EPA 45013-90-006, QAQPS Control Cost Manual.

Mr. Hollis H. Elder
Jefferson-Smurfit Corporation
AC 16-234532 (PSD-FL-207)
Permit Modification
October 12, 1993
Page 2 of 2

2) Provide information and data to support the 30 ppm of Ammonia emissions if SNCR were used while this source were being operated. This information should include NO_x removal efficiency associated with incremental increases of ammonia emissions from 5 ppm to 30 ppm (ie. 5-10 ppm, 10-20 ppm, and 20-30 ppm). Update the economics for each scenario (\$/ton of NO_x removed)

If you have any questions, please call Doug Outlaw or Charles Logan at (904) 488-1344, or write to me at the above address.

Sincerely,


John C. Brown, Jr., P.E.
Administrator
Air Permitting and Standards

CHF/CSL

cc: J. Cole, NE. Dist.
R. Roberson, DCRESO
G. Tonn, JSC
J. Manning, P.E.
J. Harper, U.S. EPA.
J. Bunyak, NPS
B. Collom, GAPC


your RETURN ADDRESS completed on the reverse side?

SENDER: <ul style="list-style-type: none"> • Complete items 1 and/or 2 for additional services. • Complete items 3, and 4a & b. • Print your name and address on the reverse of this form so that we can return this card to you. • Attach this form to the front of the mailpiece, or on the back if space does not permit. • Write "Return Receipt Requested" on the mailpiece below the article number. • The Return Receipt will show to whom the article was delivered and the date delivered. 		I also wish to receive the following services (for an extra fee): 1. <input type="checkbox"/> Addressee's Address 2. <input type="checkbox"/> Restricted Delivery Consult postmaster for fee.	
3. Article Addressed to: Mr. Hollis H. Elder Vice President and General Manager Jefferson-Smurfit Corporation Post Office Box 150 Jacksonville, Florida 32201		4a. Article Number P 872 562 480	
5. Signature (Addressee) <i>Hollis H. Elder</i>		4b. Service Type <input type="checkbox"/> Registered <input type="checkbox"/> Insured <input checked="" type="checkbox"/> Certified <input type="checkbox"/> COD <input type="checkbox"/> Express Mail <input type="checkbox"/> Return Receipt for Merchandise	
6. Signature (Agent)		7. Date of Delivery <i>10-12-93</i>	
		8. Addressee's Address (Only if requested and fee is paid)	

Thank you for using Return Receipt Service.

PS Form 3811, December 1991 U.S. GPO: 1992-323-402 DOMESTIC RETURN RECEIPT

P 872 562 480



Receipt for Certified Mail
 No Insurance Coverage Provided
 Do not use for International Mail
 (See Reverse)

Sent to Mr. Hollis H. Elder	
Street and No. P. O. Box 150	
P.O., State and ZIP Code Jacksonville, FL 32201	
Postage	
Certified Fee	\$
Special Delivery Fee	
Restricted Delivery Fee	
Return Receipt Showing to Whom & Date Delivered	
Return Receipt Showing to Whom, Date, and Addressee's Address	
TOTAL Postage & Fees	\$
Postmark or Date Mailed: 10/12/93 AC 16-234532	

PS Form 3800, JUNE 1991



United States Department of the Interior

NATIONAL PARK SERVICE
AIR QUALITY DIVISION
P.O. BOX 25287
DENVER, CO 80225

FACSIMILE

DATE: 10/6

TIME: _____

FAX PHONE NO. (303) 969-2822

NUMBER OF PAGES TO FOLLOW: 1

TO: Cleve Holladay
PHONE: (904) 488-1344

FROM: Ellen Porter
PHONE: (303) 969-2617

SUBJECT: JEFFERSON SMURFIT

REMARKS:

Note

October 6, 1993

To: Cleve Holladay

From: Ellen Porter

Subject: Jefferson-Smurfit, Corp.

We have reviewed the material forwarded to us regarding Jefferson-Smurfit, Corporation's (JSC) PSD permit application. We agree that the proposed controls represent BACT for SO₂ and NO_x. We agree that the VISCREEN analysis indicates that there would be low potential for plume impacts at Okefenokee and Wolf Island Wilderness Areas.

As I mentioned in our conversation of Oct. 4, JSC misuses the NPS/FWS significant impact levels in the AQRV analysis. These levels are not to be used to determine whether a cumulative AQRV analysis is to be done. These levels are only to be used to determine if the source would contribute significantly to an increment violation. It is the federal land manager's responsibility to decide the extent of an AQRV analysis. In this case, since the source refers to the Lemmon Kraft, Corp. AQRV analysis (which was adequate), and no new information has been received regarding AQRVs in the areas since that analysis, we find JSC's analysis to be adequate.

Please forward your preliminary determination when it is available.



Ellen Porter



JEFFERSON SMURFIT CORPORATION

September 16, 1993

CERTIFIED MAIL - RETURN RECEIPT REQUESTED

Mr. Clair H. Fancy, P.E., Chief
Bureau of Air Regulations
Division of Air Resources Management
Florida Department of Environmental Protection
2600 Blair Stone Road
Tallahassee, Florida 32399-2400

SUBJECT: NO. 10 COAL/BARK BOILER
PERMIT NO. AO16-185036
JEFFERSON SMURFIT CORPORATION
JACKSONVILLE MILL

Dear Mr. Fancy:

This letter is to respond to your letter of August 13, 1993 requesting additional information to complete our application to modify the construction and operation permits for the subject boiler. The information is presented in the order it was requested.

We would like to stress that the proposed modification will involve no physical changes to the boiler or its control equipment. It is simply a paper change which will allow us to more economically generate power internally rather than purchasing it from an outside source. The boiler was designed to operate with the proposed mix of fuels and slightly higher steam production rate that this modification will accommodate. With that in mind, we offer the following response to your comments.

1. We selected the results of the February 27, 1991 test as our baseline for NO_x modeling because it is representative of normal operations and provides the most operational flexibility for the boiler. The difference between the 1991 test results and the 1992 test results is only four percent, which is well within normal operational variability and within the accuracy range of normal emissions testing.

As a practical matter, the difference in the ambient impact between the two emission rates is minor. Modeling the lower of the two rates will increase the maximum ambient concentration to 0.80 micrograms/cubic meter, up from the concentration of 0.61 at the higher emission rate, but still well below the significant impact level for Class II areas. For Class I areas, the incremental increase is even less significant.

Containerboard Mill Division

1915 WIGMORE STREET
P. O. BOX 150
JACKSONVILLE, FL 32201
TELEPHONE: 904/353-3611

RECEIVED

SEP 20 1993

Division of Air
Resources Management

No. 10 Coal/Bark Boiler
Jefferson Smurfit Corp.
Jacksonville Mill
PAGE 2

Another factor in the selection of the higher emission rate is the age of the boiler. It has been in operation for almost ten years, which is approximately one-third of its expected life. Due to normal depreciation, the NO_x emission tests results have shown an upward trend since 1987. This demonstrated need for operational flexibility, in conjunction with the negligible difference in the emission rates and the minor difference in the ambient impact, is adequate justification for selecting the 1991 emission test results as the baseline in our modeling.

2. Please see the enclosed "Review of Best Available Control Technology for Coal/Bark-fired Boilers."
3. Also enclosed, please find the "Air Quality Related Values Analysis and Visibility Screening Analysis" as requested.
4. EPA's comments regarding the BACT analysis have been addressed in Item 2 above. Also, the justification given in Item 1 regarding the choice of emission rates applies as well to the choice of years representing normal operation. More to the point, however, is the fact that years 1989, 1990, and 1991 were below normal. Equipment downtime was greater than normal due primarily to implementation of several significant mill modernization projects. As with any manufacturing process, the goal is 100% operation; however, any downtime for any reason except routine maintenance is considered not normal.

We trust this information adequately addresses your concerns, and we may proceed expeditiously to complete this project. If you need any further information, or if there is anything we can do to assist you in the process, please let me know.

Sincerely,



Hollis H. Elder
Vice President & General Manager

CR# P 240 176 808

td:\permits\rai#10mo.ltr

cc: C. Logan
C. Halladay
G. Cole, NE Dist.
R. Robinson, DCA&D
G. Harper, EPA
G. Rumpel, NPS

REVIEW OF BEST AVAILABLE CONTROL TECHNOLOGY FOR COAL/BARK-FIRED BOILERS

PROJECT

Jefferson Smurfit Corporation (JSC) is proposing to modify the construction permit for its No. 10 Coal/Bark-fired boiler by increasing the allowable heat input rate from 441 MMBtu/hr to 540 MMBtu/hr. The change is being requested to accommodate the burning of more bark, which has a lower heating value than coal, while maintaining the same steam production rate. No physical modification to the boiler or ancillary equipment will occur. This modification triggers NSR for sulfur dioxide and oxides of nitrogen, thus, a BACT review is required for those pollutants.

SULFUR DIOXIDE

The current SO₂ controls on the boiler are low sulfur coal (<1%) and a caustic wet scrubber. The SO₂ laden gases are subjected to a caustic (NaOH) scrubbing solution in both the venturi scrubber and in the SO₂ absorber/demister tower downstream of the boiler.

The current SO₂ limit is 0.66 lb/MMBtu, which was the BACT determination when the original permit was issued. The vendor's efficiency guarantee for the scrubber system was 90% removal when burning 3.5% sulfur coal, which equated to an emission limit of 0.59 lb/MMBtu. This removal efficiency may not be attainable with the use of low sulfur coal, since the efficiency of an absorber system is directly dependent of the inlet pollutant concentration, and the existing system was designed for an inlet concentration at least 3.5 times greater than occurs currently. Also, with the increased use of bark as a fuel, the inlet SO₂ concentration will be even lower.

No other control technologies were considered in this review because the installation of any other control system would require:

- ◆ the physical removal of the existing system because there is no available space to accommodate a new system;
- ◆ the engineering, construction and installation of the new system; and
- ◆ extended downtime of the facility's power generation system while the two previous items are being completed.

Any of these three events for the purpose of a twenty to thirty percent reduction in SO₂ emissions would be economically unjustified; the three together, overwhelmingly so.

Review of Best Available Control Technology
For Coal/Bark-fired Boilers
Jefferson Smurfit Corp.
Jacksonville Mill
PAGE 2

JSC concludes that an SO₂ emission limit of 217 lb/hr (0.40 lb/MMBtu) is BACT for this boiler because:

- ◆ it represents a reduction from maximum potential emissions of 70.6% under worst case conditions (100% coal) and 60% reduction under expected normal operating conditions (47% coal, 53% bark, by weight) even while burning low sulfur coal;
- ◆ it is a 39% reduction from the current allowable rate, which was previously determined to be BACT, a 32% reduction from the minimum emission rate of 0.59 lb/MMBtu guaranteed by the vendor, and a 67% reduction from NSPS; and,
- ◆ it will not result in any significant ambient impacts in any Class I or II areas.

OXIDES OF NITROGEN

The current controls for NO_x are boiler design and good operation. This boiler was designed for, and the original BACT was set at, the NSPS emission limit of 0.7 lb NO_x/MMBtu.

A review of EPA's RACT/BACT/LAER Information Systems bulletin board revealed only two similar sources, i.e., combination coal and woodwaste/bark-fired boilers, subject to BACT application in the last five years: Union Camp (UC) pulp and paper mill in Eastover, SC; and Multitrade Limited Partnership (MLP) in Virginia. MLP selected SNCR-urea injection to control NO_x emissions to an allowable rate of 0.13 lb/MMBtu at an efficiency of 50%. The cost effectiveness of this system is reported to be \$4,380 per ton of NO_x removed.

BACT for the UC boiler was determined to be 0.50 lb/MMBtu based on boiler design and good operation.

Information on the application of other options for similar boilers was not available in the RACT/BACT/LAER Information System.

JSC proposes to retain its previous allowable emission rate of 308.7 lb/hr. At the new operating rate of 540 MMBtu/hr, this equates to a concentration of 0.57 lb/MMBtu, a 19% reduction below the previous limit and NSPS. Also:

Review of Best Available Control Technology
For Coal/Bark-fired Boilers
Jefferson Smurfit Corp.
Jacksonville Mill
PAGE 3

- ◆ considering the age of the boiler (10 years), 0.57 lb/MMBtu is reasonably equivalent to BACT set for the UC boiler, which is approximately 3 years old;
- ◆ the addition of add-on control equipment is not economically justified based on the MLP experience;
- ◆ the addition of add-on control equipment also is not feasible because there is no space available to accommodate a new system; and,
- ◆ there are no significant ambient impacts to any Class I or II areas at this emission rate.

AIR QUALITY RELATED VALUES ANALYSIS
and
VISUAL EFFECTS SCREENING ANALYSIS
for
JEFFERSON-SMURFIT CORPORATION
NO.10 COMBINATION BOILER

Prepared for:

Jefferson-Smurfit Corporation
1915 Wigmore Street
Jacksonville, Florida 32201

Prepared by:

James L. Manning, P.E.
5077 Toproyal Lane
Jacksonville, Florida 32211

August 1993

Introduction

Jefferson-Smurfit Corporation (JSC) is proposing to modify the construction permit for its No. 10 coal/bark-fired boiler to increase the heat input rate from 441 MMBtu/hr to 540 MMBtu/hr. The modification is subject to the PSD new source review rules for the pollutants sulfur dioxide and nitrogen oxides. As a result, the Florida DEP has requested an air quality related values analysis of the impacts of these emissions on the Okeefenokee and Wolf Island National Wilderness Areas. The analysis addresses the potential impacts on vegetation, soils, wildlife and the aquatic environment in those areas due to the proposed modification and other sources.

Air Quality Related Values

The Okeefenokee National Wilderness Area (NWA) is located approximately 58 kilometers (km) northwest of JSC, and Wolf Island NWA is located approximately 104 km north of JSC. Both areas have characteristics that are unique to the NWA, and that are typical of the surrounding area. The state of the wildlife, soils, vegetation and water resources is dependent to some extent on the quality of the air environment. The important aquatic, vegetation and wildlife characteristics which make these two areas deserving of special consideration are presented in Table 1. These characteristics, the air quality related values (AQRV), include all threatened and endangered plant and animal species, all other terrestrial vegetation, and some terrestrial wildlife that are indigenous to the areas. Threatened and endangered species associated with terrestrial habitats of the Okeefenokee and Wolf Island NWA are presented in Table 2.

Impact Analysis

The proposed modification to JSC's construction permit will result in significant net emissions increases for sulfur dioxide (SO₂) and nitrogen oxides (NOx) under the PSD new source review rules. These emissions were modeled for impacts to the two NWAs of concern and were determined to be below the significant impact thresholds as set by the National Park Service (NPS) for Class I areas under their jurisdiction. This demonstrates that the increase in emissions from this modification will have a negligible effect on the AQRVs in the Okeefenokee and Wolf Island NWAs.

TABLE 1

Air Quality Related Values

Location	Characteristic
<u>Okeefenokee NWA</u>	<p data-bbox="678 470 1409 500">Aquatic: Blackwater rivers, ponds, sloughs.</p> <p data-bbox="630 502 1425 719">Vegetation: Cypress wetlands, wet flatwoods, bay-shrub bogs, basin marshes, mixed hardwood swamp, old-growth cypress swamp, epiphytic plants including bromeliads and orchids, lichens, and threatened and endangered species.</p> <p data-bbox="678 725 1425 819">Wildlife: Birds, mammals, reptiles, and amphibians; and threatened and endangered species.</p>
<u>Wolf Island NWA</u>	<p data-bbox="695 889 1073 919">Aquatic: Tidal creeks.</p> <p data-bbox="646 921 1425 981">Vegetation: Salt marshes, small marsh hammocks, and uplands.</p> <p data-bbox="678 987 1425 1074">Wildlife: Birds, mammals, reptiles, and amphibians; and threatened and endangered species.</p>

TABLE 2

Threatened and Endangered Wildlife Species
in the Okeefenokee and Wolf Island NWAs

Species	Designated Status	
	State ^a	USFWS ^b
Florida Black Bear	S4	C2
Arctic Peregrine Falcon	S1	-
Bachman's Warbler	E	E
Bald Eagle	E	E
Piping Plover	S1/S2	T
Red-cockaded Woodpecker	E	E
Wood Stork	S2	E
American Alligator	-	T(S/A)
Atlantic Loggerhead	-	T
Eastern Indigo Snake	S3	T

^a State (Georgia) Status:

- E = endangered.
- S1 = regionally endangered.
- S2 = regionally threatened.
- S3 = regionally of concern.
- S4 = regionally apparently secure.

^b U.S. Fish and Wildlife Service Status:

- C2 = candidate for listing with some evidence of vulnerability, but for which not enough data exists to support listing.
- E = endangered.
- T = threatened.
- T(S/A) = threatened due to similarity of appearance.

Sources: U.S. Fish and Wildlife Service
Georgia Freshwater Wetlands and Heritage Inventory Program

In recent months, two other AQRV analyses were performed for these same two Class I areas, one for Seminole Kraft Corporation's (SKC) new package boilers and one for the Cedar Bay cogeneration plant (CBCP). The thorough evaluation performed for the SKC project concluded that "...large margins of safety exist for all matrices examined with respect to the effects of SO₂...on the wilderness areas" from all sources in Duval County. Considering that JSC is proposing an SO₂ emission limit that is 25% below the emission rate used in the SKC modeling, and considering that the actual emission rate will be well below the allowable rate, it is safe to conclude that the AQRVs will not be negatively impacted by JSC's proposed modification.

As with SO₂, the modeled impacts of the NOx emissions indicates that the JSC modification also will not have a significant effect on the AQRVs. This agrees with the conclusion reached in the CBCP analysis of their impacts. Again, considering that the modeling predicts impacts at maximum allowable emissions under worst-case meteorological conditions, and that JSC's actual emissions will be below the allowable, it is safe to conclude that the AQRVs will not be negatively impacted by the modification.

Visual Effects Screening Analysis

As requested by DEP, an analysis was performed on the possible effects the modification may have on the visibility conditions in the Okefenokee and Wolf Island NWAs. Using EPA's VISCREEN model, a Level 1 screening analysis was done for the pollutants particulate matter and NOx. The results presented in Figures 1, 2 and 3 indicate that the Level 1 screening criteria will not be exceeded for either pollutant. The model was run for the Okefenokee NWA using background visual range values of both 25 and 40 km (Figures 1 and 2) because of the proximity of the regional boundary to the boundary of the NWA. The conclusion is that the modification will cause negligible visibility impairment inside or outside the Class I areas.

FIGURE 1

Visual Effects Screening Analysis
 Source: Jefferson-Smurfit Corporation
 Class I Area: Okeefenokee NWA

*** Level-1 Screening ***

Input Emissions for

Particulates	24.30	LB /HR
NOx (as NO2)	308.70	LB /HR
Primary NO2	.00	LB /HR
Soot	.00	LB /HR
Primary SO4	.00	LB /HR

**** Default Particle Characteristics Assumed

Transport Scenario Specifications:

Background Ozone:	.04	ppm
Background Visual Range:	25.00	km
Source-Observer Distance:	58.00	km
Min. Source-Class I Distance:	58.00	km
Max. Source-Class I Distance:	106.00	km
Plume-Source-Observer Angle:	11.25	degrees
Stability:	6	
Wind Speed:	1.00	m/s

R E S U L T S

Asterisks (*) indicate plume impacts that exceed screening criteria

Maximum Visual Impacts INSIDE Class I Area
 Screening Criteria ARE NOT Exceeded

Backgrnd	Theta	Azi	Distance	Alpha	Delta E		Contrast	
					Crit	Plume	Crit	Plume
SKY	10.	84.	58.0	84.	2.00	.603	.05	-.002
SKY	140.	84.	58.0	84.	2.00	.188	.05	-.004
TERRAIN	10.	84.	58.0	84.	2.00	.050	.05	.001
TERRAIN	140.	84.	58.0	84.	2.00	.014	.05	.001

Maximum Visual Impacts OUTSIDE Class I Area
 Screening Criteria ARE NOT Exceeded

Backgrnd	Theta	Azi	Distance	Alpha	Delta E		Contrast	
					Crit	Plume	Crit	Plume
SKY	10.	70.	55.1	99.	2.00	.633	.05	-.002
SKY	140.	70.	55.1	99.	2.00	.197	.05	-.004
TERRAIN	10.	55.	51.9	114.	2.00	.068	.05	.001
TERRAIN	140.	55.	51.9	114.	2.00	.019	.05	.001

FIGURE 2

Visual Effects Screening Analysis
 Source: Jefferson-Smurfit Corporation
 Class I Area: Okeefenokee NWA

*** Level-1 Screening ***
 Input Emissions for

Particulates	24.30	LB /HR
NOx (as NO2)	308.70	LB /HR
Primary NO2	.00	LB /HR
Soot	.00	LB /HR
Primary SO4	.00	LB /HR

**** Default Particle Characteristics Assumed

Transport Scenario Specifications:

Background Ozone:	.04	ppm
Background Visual Range:	40.00	km
Source-Observer Distance:	58.00	km
Min. Source-Class I Distance:	58.00	km
Max. Source-Class I Distance:	106.00	km
Plume-Source-Observer Angle:	11.25	degrees
Stability:	6	
Wind Speed:	1.00	m/s

R E S U L T S

Asterisks (*) indicate plume impacts that exceed screening criteria

Maximum Visual Impacts INSIDE Class I Area
 Screening Criteria ARE NOT Exceeded

Backgrnd	Theta	Azi	Distance	Alpha	Delta E		Contrast	
					Crit	Plume	Crit	Plume
SKY	10.	84.	58.0	84.	2.00	1.402	.05	-.003
SKY	140.	84.	58.0	84.	2.00	.501	.05	-.008
TERRAIN	10.	84.	58.0	84.	2.00	.211	.05	.003
TERRAIN	140.	84.	58.0	84.	2.00	.072	.05	.002

Maximum Visual Impacts OUTSIDE Class I Area
 Screening Criteria ARE NOT Exceeded

Backgrnd	Theta	Azi	Distance	Alpha	Delta E		Contrast	
					Crit	Plume	Crit	Plume
SKY	10.	60.	53.0	109.	2.00	1.503	.05	-.003
SKY	140.	60.	53.0	109.	2.00	.535	.05	-.009
TERRAIN	10.	50.	50.7	119.	2.00	.285	.05	.004
TERRAIN	140.	50.	50.7	119.	2.00	.098	.05	.003

FIGURE 3

Visual Effects Screening Analysis
 Source: Jefferson-Smurfit Corporation
 Class I Area: Wolf Island NWA

*** Level-1 Screening ***
 Input Emissions for

Particulates	24.30	LB /HR
NOx (as NO2)	308.70	LB /HR
Primary NO2	.00	LB /HR
Soot	.00	LB /HR
Primary SO4	.00	LB /HR

**** Default Particle Characteristics Assumed

Transport Scenario Specifications:

Background Ozone:	.04 ppm
Background Visual Range:	40.00 km
Source-Observer Distance:	104.00 km
Min. Source-Class I Distance:	104.00 km
Max. Source-Class I Distance:	109.00 km
Plume-Source-Observer Angle:	11.25 degrees
Stability:	6
Wind Speed:	1.00 m/s

R E S U L T S

Asterisks (*) indicate plume impacts that exceed screening criteria

Maximum Visual Impacts INSIDE Class I Area
 Screening Criteria ARE NOT Exceeded

Backgrnd	Theta	Azi	Distance	Alpha	Delta E		Contrast	
					Crit	Plume	Crit	Plume
SKY	10.	84.	104.0	84.	2.00	.200	.05	-.001
SKY	140.	84.	104.0	84.	2.00	.067	.05	-.002
TERRAIN	10.	84.	104.0	84.	2.00	.018	.05	.000
TERRAIN	140.	84.	104.0	84.	2.00	.005	.05	.000

Maximum Visual Impacts OUTSIDE Class I Area
 Screening Criteria ARE NOT Exceeded

Backgrnd	Theta	Azi	Distance	Alpha	Delta E		Contrast	
					Crit	Plume	Crit	Plume
SKY	10.	70.	98.9	99.	2.00	.209	.05	-.001
SKY	140.	70.	98.9	99.	2.00	.070	.05	-.002
TERRAIN	10.	55.	93.1	114.	2.00	.023	.05	.000
TERRAIN	140.	55.	93.1	114.	2.00	.007	.05	.000



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION IV

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

AUG 19 1993

RECEIVED

AUG 27 1993

Division of Air
Resources Management

4APT-AEB

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

RE: Jefferson Smurfit Corporation (PSD-FL-207)

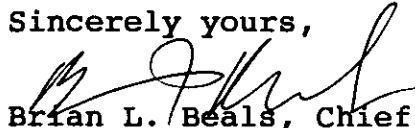
Dear Mr. Fancy:

As requested in your letter dated July 19, 1993, we have reviewed the Prevention of Significant Deterioration (PSD) permit application for a proposed modification to the above referenced source for completeness. The applicant proposes to increase the heat input to an existing coal/wood-fired boiler. As discussed between Mr. Charles Logan of your staff and Mr. Gregg Worley of my staff on August 13, 1993, we have the following comments.

1. The applicant used the operating hours for the years 1988 and 1992 for calculating existing actual emissions. PSD regulations require that the average emissions, in tons per year, of the two-year period preceding the proposed change be used to determine actual emissions. Where the reviewing authority makes a determination that the two-year period preceding the change is not representative of normal unit operation, another two-year period may be used. EPA's historical position has been that the alternate two-year period must occur within the contemporaneous time period and must be two consecutive years. An applicant is not allowed to simply pick any two years with the most hours of operation. Unless your agency makes a determination that the years 1991 and 1992 are not representative of normal unit operation, those years should be used to calculate actual emissions.
2. The BACT analysis presented by the applicant does not meet the regulatory requirements for a case-by-case control technology determination considering energy, economic and other environmental impacts. A cursory statement that BACT for the boiler should be the same as was determined in 1981 is not sufficient.

Thank you for the opportunity to review and comment on the completeness of this application. If you have any questions on these comments, please contact Mr. Gregg Worley of my staff at (404) 347-5014.

Sincerely yours,



Brian L. Beals, Chief
Source Evaluation Unit
Air Enforcement Branch
Air, Pesticides, and Toxics
Management Division

cc: C. Logan
C. Holladay
G. Cole, NE Dist
R. Robinson, DCARD
G. Bunyal, NPS
B. Colborn, GAPE
G. Sonn, JSC
G. Manieng, PE



Lawton Chiles
Governor

Florida Department of Environmental Protection

Twin Towers Office Building
2600 Blair Stone Road
Tallahassee, Florida 32399-2400

Virginia B. Wetherell
Secretary

August 13, 1992

CERTIFIED MAIL - RETURN RECEIPT REQUESTED

Mr. Hollis H. Elder
Vice President and General Manager
Jefferson-Smurfit Corporation
Post Office Box 150
Jacksonville, Florida 32201

Re: Permit Application for Modification
AC 16-234532 (PSD-FL-207)
No. 10 Power Boiler

Dear Mr. Elder:

Your permit application to modify the No. 10 power boiler was received on July 16, 1993, and is deemed incomplete based on a technical review of the proposal. Therefore, submit the following information to the Department's Bureau of Air Regulation, including all assumptions, reference material and calculations, at which time the review of this proposal will resume:

1. Provide modeling results that use a baseline actual average NO_x emission rate of 264.25 lbs/hr (March 6, 1992 Test Results), or provide adequate justification for using 274.89 lbs/hr (February 27, 1991 Test Results) as the baseline in your modeling.
2. Pursuant to Rule 17-212.410, F.A.C., provide an updated BACT Determination which demonstrates that the existing "Method of Controls" are BACT for the pollutants subject to PSD New Source Review.
3. Provide an air quality-related values (AQRV) analysis for the Okefenokee and Wolf Island Class I areas for all pollutants predicted to be emitted in PSD significant amounts (SO₂ and NO_x for this application). The potential effects on visibility, vegetation, wildlife, soils and aquatic resources, should be evaluated. Since the modeled impacts for this project are below the National Park Service

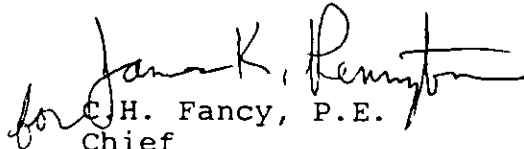
Mr. Hollis H. Elder
Jefferson-Smurfit Corporation
AC 16-234532 (PSD-FL-207)
Permit Modification
August 13, 1993
Page 2 of 2

significant impact levels, a literature review will be sufficient for determining potential effects on vegetation, wildlife, soils and aquatic resources. However, the visibility impact analysis requires the use of the VISCREEN model to predict the impacts due to the proposed emissions increase.

4) Two comments were received verbally from Mr. Gregg Worley with the U.S. EPA, Region IV. The first comment is that there needs to be justification for use of any other years beyond the last two years of operation for calculating actual pollutant emissions. Secondly, the BACT Determination for a previous construction permit does not meet PSD control technology analysis requirements for this proposal. If any previous response adequately addresses EPA's concerns, please reference the response and it will not be necessary to restate the response.

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

Sincerely,


C.H. Fancy, P.E.
Chief

Bureau of Air Regulation

CHF/CSL

cc: J. Cole, NE. Dist.
R. Roberson, DCRESO
G. Tonn, JSC
J. Manning, P.E.
J. Harper, U.S. EPA.
J. Bunyak, NPS
B. Collom, GAPC

Is your RETURN ADDRESS completed on the reverse side?

SENDER: • Complete items 1 and/or 2 for additional services. • Complete items 3, and 4a & b. • Print your name and address on the reverse of this form so that we can return this card to you. • Attach this form to the front of the mailpiece, or on the back if space does not permit. • Write "Return Receipt Requested" on the mailpiece below the article number. • The Return Receipt will show to whom the article was delivered and the date delivered.		I also wish to receive the following services (for an extra fee): 1. <input type="checkbox"/> Addressee's Address 2. <input type="checkbox"/> Restricted Delivery Consult postmaster for fee.
3. Article Addressed to: Mr. Hollis H. Elder, Vice President and Gen. Mgr. Jefferson Smurfit Corp. P. O. Box 150 Jacksonville, FL 32201	4a. Article Number P 230 524 397	
	4b. Service Type <input type="checkbox"/> Registered <input type="checkbox"/> Insured <input checked="" type="checkbox"/> Certified <input type="checkbox"/> COD <input type="checkbox"/> Express Mail <input type="checkbox"/> Return Receipt for Merchandise	
	7. Date of Delivery 8-26-93	
5. Signature (Addressee) <i>Vince Ward</i>	8. Addressee's Address (Only if requested and fee is paid)	
6. Signature (Agent)		

Thank you for using Return Receipt Service.

P 230 524 397



Receipt for Certified Mail

No Insurance Coverage Provided
 Do not use for International Mail
 (See Reverse)

PS Form 3800, June 1991

Sent to Mr. Hollis H. Elder, JSC	
Street and No. P. O. Box 150	
P.O. State and ZIP Code Jacksonville, FL 32211	
Postage	\$
Certified Fee	
Special Delivery Fee	
Restricted Delivery Fee	
Return Receipt Showing to Whom & Date Delivered	
Return Receipt Showing to Whom, Date, and Addressee's Address	
TOTAL Postage & Fees	\$
Postmark or Date Mailed: 8-13-93 Permit: AC 16-234532 PSD-FL-207	



Lawton Chiles
Governor

Florida Department of Environmental Protection

Twin Towers Office Building
2600 Blair Stone Road
Tallahassee, Florida 32399-2400

Virginia B. Wetherell
Secretary

August 13, 1993

Mr. R. H. Collom, Jr., Chief
Air Protection Branch
Environmental Protection Division
Georgia Department of Natural Resources
270 Washington Street, S.W.
Atlanta, GA 30334

Dear Mr. Collom:

RE: Jefferson Smurfit Corporation
No. 10 Power Boiler
Duval County, PSD-FL-207

Enclosed for your information is the above referenced PSD application package. We will send you a copy of the Bureau of Air Regulation's proposed final action on this project when it is available. If you have any questions or comments, please contact Charles Logan or Cleve Holladay at (904)488-1344 or write to me at the above address.

Sincerely,

Patricia G. Adams

for C. H. Fancy, P.E.
Chief

Bureau of Air Regulation

CHF/pa

Enclosures

RECEIVED

AUG 19 1993



JEFFERSON SMURFIT CORPORATION

Division of Air Resources Management

August 12, 1993

Containerboard Mill Division

1915 WIGMORE STREET

P.O. BOX 150

JACKSONVILLE, FL 32201

TELEPHONE 904/353-3611

CERTIFIED MAIL - RETURN RECEIPT REQUESTED

RECEIVED

AUG 19 1993

Division of Air Resources Management

Mr. Cleve Holladay
Meteorologist
Permitting and Standards Section
Division of Air Resources Management
Department of Environmental Protection
2400 Blair Stone Road
Tallahassee, Florida 32399-2400

SUBJECT: NO.10 COAL/BARK BOILER
PERMIT NO. AO16-185036
JEFFERSON SMURFIT CORPORATION
JACKSONVILLE MILL

Dear Mr. Holladay:

In response to your request, an Air Modeling Data Summary was prepared by our consultant, Jim Manning. A copy of this summary was sent to you by fax on August 11. Attached is a hard copy to be included with the package of modeling results submitted to the Department on July 14, 1993.

Should there be any questions, please call Gene Tonn at (904) 353-3611.

Very truly yours,

Hollis H. Elder
Vice President & General Manager

CR# P 240 176 797

td:\permits\airmodel.ltr

cc: C. Fagan
C. Holladay
G. Cole, NE Dept
R. Robinson, DEQA ID } 8-19-93
D. Harper, EPA
D. Rumbak
D. Colborn, EA DWR

JEFFERSON-SMURFIT CORPORATION
NO. 10 COAL/BARK BOILER

AIR MODELING DATA SUMMARY

Averaging period	Significant impact value	Highest Modeled Value				
		1983	1984	1985	1986	1987
<u>Sulfur Dioxide</u>						
<u>Class II Areas</u>						
Annual	1.0	0.27	0.25	0.26	0.26	0.29
3-hour	25.0	10.0	9.39	8.87	8.32	10.4
24-hour	5.0	3.94	3.55	3.54	4.84	3.38
<u>Class I Areas</u>						
Annual	0.025	0.002	0.003	0.003	0.003	0.003
3-hour	0.48	0.27	0.31	0.36	0.21	0.30
24-hour	0.069	0.068	0.050	0.063	0.063	0.053
<hr/>						
<u>Nitrogen Oxides</u>						
<u>Class II Areas</u>						
Annual	1.0	0.55	0.51	0.53	0.55	0.61
<u>Class I Areas</u>						
Annual	0.025	0.005	0.006	0.006	0.006	0.006

Note: All values are in units of micrograms/cubic meter.



Lawton Chiles
Governor

Florida Department of Environmental Protection

Twin Towers Office Building
2600 Blair Stone Road
Tallahassee, Florida 32399-2400

Virginia B. Wetherell
Secretary

July 19, 1993

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

Dear Ms. Harper:

RE: Jefferson Smurfit Corporation
No. 10 Coal/Bark Boiler
Duval County, PSD-FL-207

The Department has received the above referenced PSD application package. Please review this package and forward your comments to the Department's Bureau of Air Regulation by August 11, 1993. The Bureau's FAX number is (904)922-6979.

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

Sincerely,

Patricia G. Adams

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

CHF/pa

Enclosures



Lawton Chiles
Governor

Florida Department of Environmental Protection

Twin Towers Office Building
2600 Blair Stone Road
Tallahassee, Florida 32399-2400

Virginia B. Wetherell
Secretary

July 19, 1993

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

Dear Mr. Bunyak:

RE: Jefferson Smurfit Corporation
No. 10 Coal/Bark Boiler
Duval County, PSD-FL-207

The Department has received the above referenced PSD application package. Please review this package and forward your comments to the Department's Bureau of Air Regulation by August 11, 1993. The Bureau's FAX number is (904)922-6979.

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

Sincerely,

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

CHF/pa

Enclosures