

Jeb Bush  
Governor

# Department of Environmental Protection

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

David B. Struhs  
Secretary

April 14, 2000

CERTIFIED MAIL - RETURN RECEIPT REQUESTED

Mr. Joseph Teves, President & CEO  
Separation Technologies, Inc.  
10 Kearney Road  
Needham, MA 02494

Re: DEP File No. 0310001-002-AC/PSD-FL-010(D)  
Flyash Benefication Process  
St. Johns River Power Park

Dear Mr. Teves:

Enclosed is one copy of the Draft PSD Permit Modification and Technical Evaluation and Preliminary Determination for the referenced project in Jacksonville, Duval County. The Department's Intent to Issue PSD Permit Modification and the "PUBLIC NOTICE OF INTENT TO ISSUE PSD PERMIT MODIFICATION" are also included.

The "Public Notice of Intent to Issue PSD Permit Modification" must be published as soon as possible in a newspaper of general circulation in the area affected pursuant to Chapter 50, Florida Statutes. Proof of publication, i.e., newspaper affidavit, must be provided to the Department's Bureau of Air Regulation within 7 (seven) days of publication. Failure to publish the notice and provide proof of publication within the allotted time may result in the denial of the permit.

Please submit any written comments you wish to have considered concerning the Department's proposed action to A. A. Linero, P.E., Administrator, New Source Review Section, at the above letterhead address. If you have any questions, please call Syed Arif, P.E. at 850/921-9528.

Sincerely,

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

Enclosures

"More Protection, Less Process"

Printed on recycled paper.

In the Matter of an  
Application for Permit by:

Mr. Joseph Teves, President & CEO  
Separation Technologies, Inc.  
10 Kearney Road  
Needham, MA 02494

DEP File No.: 0310001-002-AC/PSD-FL-010(D)  
Flyash Benefication Process  
St. Johns River Power Park  
Duval County

INTENT TO ISSUE PSD PERMIT MODIFICATION

The Florida Department of Environmental Protection (Department) gives notice of its intent to issue a modification of the permit for the Prevention of Significant Deterioration (PSD) of Air Quality (copy of Draft PSD Permit Modification attached) for the proposed project, detailed in the application specified above and the attached Technical Evaluation and Preliminary Determination, for the reasons stated below.

The applicant, Separation Technologies, Inc. applied on December 14, 1999, to the Department for a modification of the Conditions of Approval related to flyash benefication process in Permit PSD-FL-010 applicable to the St. Johns River Power Park.

The Department has permitting jurisdiction under the provisions of Chapter 403, Florida Statutes (F.S.), and Florida Administrative Code (F.A.C.) Chapters 62-4, 62-210, and 62-212. The above actions are not exempt from permitting procedures. The Department has determined that a PSD permit modification is required to conduct the work associated with the flyash benefication process.

The Department intends to issue this PSD permit modification based on the belief that reasonable assurances have been provided to indicate that operation of these emission units and activities will not adversely impact air quality, and the emissions units will comply with all appropriate provisions of Chapters 62-4, 62-204, 62-210, 62-212, 62-296, and 62-297, F.A.C., and 40 CFR 52.21.

Pursuant to Section 403.815, F.S., and Rule 62-110.106(7)(a)1., F.A.C., you (the applicant) are required to publish at your own expense the enclosed "Public Notice of Intent to Issue PSD Permit Modification." The notice shall be published one time only in the legal advertisement section of a newspaper of general circulation in the area affected. For the purpose of these rules, "publication in a newspaper of general circulation in the area affected" means publication in a newspaper meeting the requirements of Sections 50.011 and 50.031, F.S., in the county where the activity is to take place. Where there is more than one newspaper of general circulation in the county, the newspaper used must be one of significant circulation in the area that may be affected by the permit. If you are uncertain that a newspaper meets these requirements, please contact the Department at the address or telephone number listed below. The applicant shall provide proof of publication to the Department's Bureau of Air Regulation, 2600 Blair Stone Road, Mail Station #5505, Tallahassee, Florida 32399-2400 (Telephone: 850-488-0114; Fax 850/922-6979). The Department suggests that you publish the notice within thirty days of receipt of this letter. You must provide proof of publication within seven days of publication, pursuant to Rule 62-110.106(5), F.A.C. No permitting action for which published notice is required shall be granted until proof of publication of notice is made by furnishing a uniform affidavit in substantially the form prescribed in Section 50.051, F.S., to the office of the Department issuing the permit or other authorization. Failure to publish the notice and provide proof of publication may result in the denial of the permit pursuant to Rules 62-110.106(9) & (11), F.A.C.

The Department will issue the final permit revision with the attached conditions unless a response received in accordance with the following procedures results in a different decision or significant change of terms or conditions.

The Department will accept written comments and requests for a public meeting concerning the proposed permit issuance action for a period of thirty (30) days from the date of publication of "Public Notice of Intent to Issue PSD Permit Modification." Written comments and requests for a public meeting should be provided to the Department's Bureau of Air Regulation at 2600 Blair Stone Road, Mail Station #5505, Tallahassee, FL 32399-2400. Any written comments filed shall be made available for public inspection.

The Department will issue the permit with the attached conditions unless a timely petition for an administrative hearing is filed pursuant to sections 120.569 and 120.57, F.S., before the deadline for filing a petition. The procedures for petitioning for a hearing are set forth below. Mediation is not available in this proceeding.

A person whose substantial interests are affected by the proposed permitting decision may petition for a administrative proceeding (hearing) under Sections 120.569 and 120.57, F.S. The petition must contain the information set forth below and must be filed (received) in the Office of General Counsel of the Department at 3900 Commonwealth Boulevard, Mail Station #35, Tallahassee, Florida, 32399-3000. Petitions filed by the permit applicant or any of the parties listed below must be filed within fourteen days of receipt of this notice of intent. Petitions filed by any persons other than those entitled to written notice under Section 120.60(3) of the Florida Statutes must be filed within fourteen days of publication of the public notice or within fourteen days of receipt of this notice of intent, whichever occurs first. Under Section 120.60(3), F.S., however, any person who asked the Department for notice of agency action may file a petition within fourteen days of receipt of that notice, regardless of date of publication. A petitioner shall mail a copy of the petition to the applicant at the address indicated above at the time of filing. The failure of any person to file a petition within the appropriate time period shall constitute a waiver of that person's right to request an administrative determination (hearing) under Sections 120.569 and 120.57, F.S., or to intervene in this proceeding and participate as a party to it. Any subsequent intervention will be only at the approval of the presiding officer upon the filing of a motion in compliance with Rule 28-106.205 of the Florida Administrative Code (F.A.C.)

A petition that disputes the material facts on which the Department's action is based must contain the following information: (a) The name and address of each agency affected and each agency's file or identification number, if known; (b) The name, address, and telephone number of the petitioner, the name, address, and telephone number of the petitioner's representative, if any, which shall be the address for service purposes during the course of the proceeding; and an explanation of how the petitioner's substantial interests will be affected by the agency determination; (c) A statement of how and when petitioner received notice of the agency action or proposed action; (d) A statement of all disputed issues of material fact. If there are none, the petition must so indicate; (e) A concise statement of the ultimate facts alleged, including the specific facts the petitioner contends warrant reversal or modification of the agency's proposed action; (f) A statement of the specific rules or statutes the petitioner contends require reversal or modification of the agency's proposed action; and (g) A statement of the relief sought by the petitioner, stating precisely the action petitioner wishes the agency to take with respect to the agency's proposed action.

A petition that does not dispute the material facts upon which the Department's action is based shall state that no such facts are in dispute and otherwise shall contain the same information as set forth above, as required by Rule 28-106.302, F.A.C.

Because the administrative hearing process is designed to formulate final agency action, the filing of a petition means that the Department's final action may be different from the position taken by it in this notice. Persons whose substantial interests will be affected by any such final decision of the Department on the application have the right to petition to become a party to the proceeding, in accordance with the requirements set forth above. Mediation is not available in this proceeding.

In addition to the above, a person subject to regulation has a right to apply for a variance from or waiver of the requirements of particular rules, on certain conditions, under Section 120.542 F.S. The relief provided by this state statute applies only to state rules, not statutes, and not to any federal regulatory requirements. Applying for a variance or waiver does not substitute or extend the time for filing a petition for an administrative hearing or exercising any other right that a person may have in relation to the action proposed in this notice of intent.


The application for a variance or waiver is made by filing a petition with the Office of General Counsel of the Department, 3900 Commonwealth Boulevard, Mail Station #35, Tallahassee, Florida 32399-3000. The

petition must specify the following information: (a) The name, address, and telephone number of the petitioner; (b) The name, address, and telephone number of the attorney or qualified representative of the petitioner, if any; (c) Each rule or portion of a rule from which a variance or waiver is requested; (d) The citation to the statute underlying (implemented by) the rule identified in (c) above; (e) The type of action requested; (f) The specific facts that would justify a variance or waiver for the petitioner; (g) The reason why the variance or waiver would serve the purposes of the underlying statute (implemented by the rule); and (h) A statement whether the variance or waiver is permanent or temporary and, if temporary, a statement of the dates showing the duration of the variance or waiver requested.

The Department will grant a variance or waiver when the petition demonstrates both that the application of the rule would create a substantial hardship or violate principles of fairness, as each of those terms is defined in Section 120.542(2) F.S., and that the purpose of the underlying statute will be or has been achieved by other means by the petitioner.

Persons subject to regulation pursuant to any federally delegated or approved air program should be aware that Florida is specifically not authorized to issue variances or waivers from any requirements of any such federally delegated or approved program. The requirements of the program remain fully enforceable by the Administrator of the EPA and by any person under the Clean Air Act unless and until the Administrator separately approves any variance or waiver in accordance with the procedures of the federal program.

Executed in Tallahassee, Florida.

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

### CERTIFICATE OF SERVICE


The undersigned duly designated deputy agency clerk hereby certifies that this INTENT TO ISSUE PSD PERMIT MODIFICATION (including the PUBLIC NOTICE, Technical Evaluation and Preliminary Determination, and the DRAFT PSD Permit Modification) was sent by certified mail (\*) and copies were mailed by U.S. Mail before the close of business on 4-18-00 to the person(s) listed:

Joseph Teves, Separation Technologies, Inc. \*  
Walter P. Bussells, JEA \*  
Frank Hrach, Separation Technologies, Inc.  
Bert Gianazza, JEA  
Mark Loechelt, SJRPP  
Deborah Henry, Black & Veatch Corp.

Hamilton S. Oven, Jr., DEP PPSO  
Scott Goorland, DEP OGC  
Chris Kirts, DEP NED  
Robert S. Pace, RESD  
Gregg Worley, EPA Region IV

Clerk Stamp

FILING AND ACKNOWLEDGMENT FILED, on this date, pursuant to §120.52, Florida Statutes, with the designated Department Clerk, receipt of which is hereby acknowledged.

  
\_\_\_\_\_  
(Clerk)

4-18-00  
(Date)

Z 031 391 948

US Postal Service

### Receipt for Certified Mail

No Insurance Coverage Provided.

Do not use for International Mail (See reverse)

PS Form 3800, April 1995

Sent to	
Joseph Jives	
Street & Number	
511	
Post Office, State, & ZIP Code	
Needham, MA	
Postage	\$ '
Certified Fee	
Special Delivery Fee	
Restricted Delivery Fee	
Return Receipt Showing to Whom & Date Delivered	
Return Receipt Showing to Whom, Date, & Addressee's Address	
TOTAL Postage & Fees	\$
Postmark or Date	
0310001-002-A0 4-15-00	
PSO-F1-0100	

#### SENDER: COMPLETE THIS SECTION

- Complete items 1, 2, and 3. Also complete item 4 if Restricted Delivery is desired.
- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:  
 Joseph Jives, Pres.  
 Separation Secn.  
 10 Kearney Rd  
 Needham, MA  
 02494

#### COMPLETE THIS SECTION ON DELIVERY

A. Received by (Please Print Clearly)	B. Date of Delivery
J. Johnson	4.21.00
C. Signature	
<i>[Signature]</i>	
<input checked="" type="checkbox"/> Agent	<input type="checkbox"/> Addressee
D. Is delivery address different from item 1? <input type="checkbox"/> Yes	
If YES, enter delivery address below: <input type="checkbox"/> No	

3. Service Type

Certified Mail     Express Mail

Registered     Return Receipt for Merchandise

Insured Mail     C.O.D.

4. Restricted Delivery? (Extra Fee)     Yes

2. Article Number (Copy from service label)    Z 031 391 948

Z 031 391 949

US Postal Service  
**Receipt for Certified Mail**

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

PS Form 3800, April 1995

Sent to	
Walter Bussells	
Street & Number	
21 W. Church St.	
Post Office, State, & ZIP Code	
Jacksonville, FL 32209-3139	
Postage	\$
Certified Fee	
Special Delivery Fee	
Restricted Delivery Fee	
Return Receipt Showing to Whom & Date Delivered	
Return Receipt Showing to Whom, Date, & Addressee's Address	
TOTAL Postage & Fees	\$
Postmark or Date	
031000/002-AC 4-18-00 P5D-FI-0100	

**SENDER: COMPLETE THIS SECTION**

- Complete items 1, 2, and 3. Also complete item 4 if Restricted Delivery is desired.
- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:  
Walter Bussells, MD  
JEA  
21 W. Church St.  
Jacksonville, FL  
32209-3139

**COMPLETE THIS SECTION ON DELIVERY**

A. Received by (Please Print Clearly) T. HEANEY  
B. Date of Delivery APR 9 2000  
C. Signature *T. Heaney*  
 Agent  
 Addressee  
D. Is delivery address different from item 1?  Yes  
If YES, enter delivery address below:  No

3. Service Type  
 Certified Mail  Express Mail  
 Registered  Return Receipt for Merchandise  
 Insured Mail  C.O.D.

4. Restricted Delivery? (Extra Fee)  Yes

2. Article Number (Copy from service label)

Z 031 391 949

**NOTICE TO BE PUBLISHED  
IN THE NEWSPAPER**

PUBLIC NOTICE OF INTENT TO ISSUE AIR CONSTRUCTION PERMIT

STATE OF FLORIDA  
DEPARTMENT OF ENVIRONMENTAL PROTECTION  
DEP File No.: 0310001-002-AC/PSD-FL-010(D)  
Flyash Beneficiation Process at the St. Johns River Power Park  
Duval County, Florida

The Department of Environmental Protection (Department) gives notice of its intent to issue an air construction permit to Separation Technologies, Inc. The permit is to construct two flyash receiving bins, one carbon separation unit, one clean-up vacuum, one flyash surge bin, one mineral additive storage bin, and one gas-fired dryer at the St. Johns River Power Park. The facility will be located approximately 1.5 miles north of the intersection of Highway 9A and Highway 105 in Jacksonville, Duval County. The applicant's name and address are Separation Technologies, Inc., 10 Kearney Road, Needham, Massachusetts 02494.

Separation Technologies Inc. (STI) is proposing to beneficiate and market the 300,000 tons per year of flyash produced by St. Johns River Power Park (SJRPP) that is currently landfilled onsite. The two-step process will consist of (1) removal of the residual carbon from the flyash using STI's patented electrostatic separation technology; and (2) removal of residual ammonia from flyash using STI's new ammonia removal technology. STI proposes to construct the new flyash processing system on a portion of leased property at SJRPP in Duval County, Florida. The purpose of the proposed equipment is to remove the residual carbon and ammonia from the flyash leaving a saleable product. As a result of the proposed construction, environmental benefits will include a 255,000 ton reduction in the flyash currently sent to landfill by SJRPP each year and an overall reduction in the ammonia releases with the recovery and subsequent recycle of ammonia removed from the flyash.

PM/PM<sub>10</sub> emissions will be controlled utilizing dust collectors. The potential PM<sub>10</sub> emissions for all proposed sources combined is less than 15 tons per year. Therefore, the construction is not subject to review under the Prevention of Significant Deterioration (PSD) program. This project does not affect fuel handling or power generation at the existing facility.

The maximum emissions in tons per year based on information provided to the Department is summarized below.

<u>Pollutant</u>	<u>Maximum Potential Emissions (tpy)</u>	<u>PSD Significant Emission Rate (tpy)</u>
PM/PM <sub>10</sub>	13.7	25/15
CO	7.6	100
NO <sub>x</sub>	0.5	40
VOC	0.3	40
SO <sub>2</sub>	0.03	40

The Department will issue the FINAL Permit, in accordance with the conditions of the DRAFT Permit, unless a response received in accordance with the following procedures results in a different decision or significant change of terms or conditions.

The Department will accept written comments and requests for public meetings concerning the proposed permit issuance action for a period of 30 (thirty) days from the date of publication of this Public Notice of Intent to Issue Air Construction Permit. Written comments and requests for public meetings should be provided to the Department's Bureau of Air Regulation at 2600 Blair Stone Road, Mail Station #5505, Tallahassee, FL 32399-2400. Any written comments filed shall be made available for public inspection. If written comments received result in a significant change in the proposed agency action, the Department shall revise the proposed permit and require, if applicable, another Public Notice.

The Department will issue the permit with the attached conditions unless a timely petition for an administrative hearing is filed pursuant to sections 120.569 and 120.57 F.S., before the deadline for filing a petition. The procedures for petitioning for a hearing are set forth below. Mediation is not available in this proceeding.

# NOTICE TO BE PUBLISHED IN THE NEWSPAPER

A person whose substantial interests are affected by the proposed permitting decision may petition for an administrative proceeding (hearing) under sections 120.569 and 120.57 of the Florida Statutes. The petition must contain the information set forth below and must be filed (received) in the Office of General Counsel of the Department at 3900 Commonwealth Boulevard, Mail Station #35, Tallahassee, Florida, 32399-3000. Petitions filed by the permit applicant or any of the parties listed below must be filed within fourteen days of receipt of this notice of intent. Petitions filed by any persons other than those entitled to written notice under section 120.60(3) of the Florida Statutes must be filed within fourteen days of publication of the public notice or within fourteen days of receipt of this notice of intent, whichever occurs first. Under section 120.60(3), however, any person who asked the Department for notice of agency action may file a petition within fourteen days of receipt of that notice, regardless of the date of publication. A petitioner shall mail a copy of the petition to the applicant at the address indicated above at the time of filing. The failure of any person to file a petition within the appropriate time period shall constitute a waiver of that person's right to request an administrative determination (hearing) under sections 120.569 and 120.57 F.S., or to intervene in this proceeding and participate as a party to it. Any subsequent intervention will be only at the approval of the presiding officer upon the filing of a motion in compliance with Rule 28-106.205 of the Florida Administrative Code.

A petition that disputes the material facts on which the Department's action is based must contain the following information: (a) The name and address of each agency affected and each agency's file or identification number, if known; (b) The name, address, and telephone number of the petitioner, the name, address, and telephone number of the petitioner's representative, if any, which shall be the address for service purposes during the course of the proceeding; and an explanation of how the petitioner's substantial interests will be affected by the agency determination; (c) A statement of how and when petitioner received notice of the agency action or proposed action; (d) A statement of all disputed issues of material fact. If there are none, the petition must so indicate; (e) A concise statement of the ultimate facts alleged, including the specific facts the petitioner contends warrant reversal or modification of the agency's proposed action; (f) A statement of the specific rules or statutes the petitioner contends require reversal or modification of the agency's proposed action; and (g) A statement of the relief sought by the petitioner, stating precisely the action petitioner wishes the agency to take with respect to the agency's proposed action.

A petition that does not dispute the material facts upon which the Department's action is based shall state that no such facts are in dispute and otherwise shall contain the same information as set forth above, as required by Rule 28-106.301.

Because the administrative hearing process is designed to formulate final agency action, the filing of a petition means that the Department's final action may be different from the position taken by it in this notice. Persons whose substantial interests will be affected by any such final decision of the Department on the application have the right to petition to become a party to the proceeding, in accordance with the requirements set forth above.

A complete project file is available for public inspection during normal business hours, 8:00 a.m. to 5:00 p.m., Monday through Friday, except legal holidays, at:

Dept. of Environmental Protection  
Bureau of Air Regulation  
111 S. Magnolia Drive, Suite 4  
Tallahassee, Florida 32301  
Telephone: 850/488-0114  
Fax: 850/922-6979

Dept. of Environmental Protection  
Northeast District Office  
7825 Baymeadows Way, Suite 200B  
Jacksonville, Florida 32256-7590  
Telephone: 904/448-4300  
Fax: 904/448-4366

Jacksonville Regulatory and  
Environmental Services Dept.  
Suite 225  
Jacksonville, Florida 32202  
Telephone: 904/630-3484  
Fax: 904-630-6338

The complete project file includes the application, technical evaluations, Draft Permit, and the information submitted by the responsible official, exclusive of confidential records under Section 403.111, F.S. Interested persons may contact the Administrator, New Resource Review Section at 111 South Magnolia Drive, Suite 4, Tallahassee, Florida 32301, or call 850/488-0114, for additional information.



**DRAFT**

May xx, 2000

CERTIFIED MAIL - RETURN RECEIPT REQUESTED

Mr. Walter P. Bussells  
Managing Director and CEO, JEA  
21 West Church Street  
Jacksonville, FL 32202

Re: Flyash Processing System  
St. Johns River Power Park; Duval County  
DEP File No.: 0310001-002-AC/PSD-FL-010(D)

Dear Mr. Bussells:

The Department has reviewed the application submitted by Separation Technologies Inc. (STI) to construct a flyash beneficiation process at the St. John's River Power Park. Because the process will be located at the existing certified facility, the Department has determined that it is necessary to modify the permit issued pursuant to the rules for the Prevention of Significant Deterioration of Air Quality (PSD Permit). The permit dated March 12, 1982 and previously modified on October 28, 1986, October 11, 1996, and July 28, 1999 is further modified as follows:

CONDITION 2

Referenced Table 6 from the Final Determination is further modified by addition of Part D to reflect the flyash beneficiation process.

<b>TABLE 6 – PART D</b>			
<b>Emission Unit ID</b>	<b>New Flyash Processing System</b>	<b>PM/PM<sub>10</sub></b>	<b>Opacity (%)</b>
<u>44</u>	<u>Separator A Filter – Receiver Vent</u>	<u>0.015 gr/scf</u>	<u>5</u>
<u>45</u>	<u>Separator B Filter – Receiver Vent</u>	<u>0.015 gr/scf</u>	<u>5</u>
<u>46</u>	<u>Separator Dust Collector Vent</u>	<u>0.015 gr/scf</u>	<u>5</u>
<u>47</u>	<u>Clean-up Vacuum Vent</u>	<u>0.015 gr/scf</u>	<u>5</u>
<u>48</u>	<u>Flyash Surge Bin Vent</u>	<u>0.015 gr/scf</u>	<u>5</u>
<u>49</u>	<u>Mineral Additive Storage Bin Vent</u>	<u>0.015 gr/scf</u>	<u>5</u>
<u>50</u>	<u>Gas-fired Dryer Stack</u>	<u>1.60 lb/hr</u>	<u>5</u>

CONDITION 3 (add the following paragraphs)

Initial compliance with the applicable particulate emission limits of emission units 44 through 49 listed in Part D of Table 6 shall be demonstrated by performing a visible emissions test using EPA Method 9, or other methods determined to be suitable by the Department (ref. Rules 62-296.711(3) and 62-296.712(3), F.A.C.). Visible emissions less than or equal to 5 percent opacity shall be considered in-compliance. Annual compliance certification shall be achieved on emission units 44 through 49 using EPA Method 9 tests to measure opacity.

# DRAFT

DEP File No.: 0310001-002-AC/PSD-FL-010(D)

Page 2

Initial compliance with the applicable particulate emission limit of emission unit 50 listed in Part D of Table 6 shall be demonstrated by performing a particulate emissions test using EPA Method 5, or other methods determined to be suitable by the Department (ref. Rules 62-296.711(3) and 62-296.712(3), F.A.C.). Particulate emissions less than or equal to 1.60 lb/hr shall be considered in-compliance. If the initial compliance test shows the unit to be in-compliance with the particulate emission limit of 1.60 lb/hr, then future annual compliance certification shall be achieved using EPA Method 9. Visible emissions of less than or equal to 5 percent opacity shall be considered in-compliance.

A copy of this letter shall be filed with the referenced permit and shall become part of the permit. This permit modification is issued pursuant to Chapter 403, Florida Statutes.

Any party to this order (permit modification) has the right to seek judicial review of it under Section 120.68, F.S., by filing a notice of appeal under Rule 9.110 of the Florida Rules of Appellate Procedure with the clerk of the Department of Environmental Protection in the Office of General Counsel, Mail Station #35, 3900 Commonwealth Boulevard, Tallahassee, Florida, 32399-3000, and by filing a copy of the notice of appeal accompanied by the applicable filing fees with the appropriate District Court of Appeal. The notice must be filed within thirty days after this order is filed with the clerk of the Department.

Executed in Tallahassee, Florida.

\_\_\_\_\_  
Howard L. Rhodes, Director  
Division of Air Resources  
Management

## CERTIFICATE OF SERVICE

The undersigned duly designated deputy agency clerk hereby certifies that this permit modification was sent by certified mail (\*) and copies were mailed by U.S. Mail before the close of business on \_\_\_\_\_ to the person(s) listed:

Joseph Teves, Separation Technologies, Inc. \*  
Walter P. Bussells, JEA \*  
Frank Hrach, Separation Technologies, Inc.  
Bert Gianazza, JEA  
Mark Loechelt, SJRPP  
Deborah Henry, Black & Veatch Corp.

Hamilton S. Oven, Jr., DEP PPSO  
Scott Goorland, DEP OGC  
Chris Kirts, DEP NED  
Robert S. Pace, RESD  
Gregg Worley, EPA Region IV

Clerk Stamp

**FILING AND ACKNOWLEDGMENT FILED,**  
on this date, pursuant to §120.52, Florida Statutes,  
with the designated Department Clerk, receipt of  
which is hereby acknowledged.

\_\_\_\_\_  
(Clerk)

\_\_\_\_\_  
(Date)

TECHNICAL EVALUATION  
AND  
PRELIMINARY DETERMINATION

Flyash Benefication Process at the St. Johns River Power Park

Two Flyash Receiving Bins  
One Carbon Separation Unit  
One Clean-up Vacuum  
One Flyash Surge Bin  
One Mineral Additive Storage Bin  
One Gas-fired Dryer

Duval County

DEP File No.: 0310001-002-AC/PSD-FL-010(D)

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

April 10, 2000

# TECHNICAL EVALUATION AND PRELIMINARY DETERMINATION

## 1.0 Application Information

### 1.1 Applicant Name and Address

Separation Technologies, Inc.  
 10 Kearney Road  
 Needham, Massachusetts 02494

Authorized Representative: *Mr. Joseph Teves*

### 1.2 Reviewing and Process Schedule

12-14-99: Date of Receipt of Application  
 01-13-00: Application Complete  
 04-xx-00: Intent Issued

## 2.0 Facility Information

### 2.1 Facility Location

Refer to Figures 1 and 2 below. The Flyash Beneficiation Process Project will be located at the St. Johns River Power Park approximately 1.5 miles north of the intersection of Highway 9A and 105 in Jacksonville, Duval County. UTM coordinates for this facility are Zone 17; 446.9 km E; 3359.15 km N.

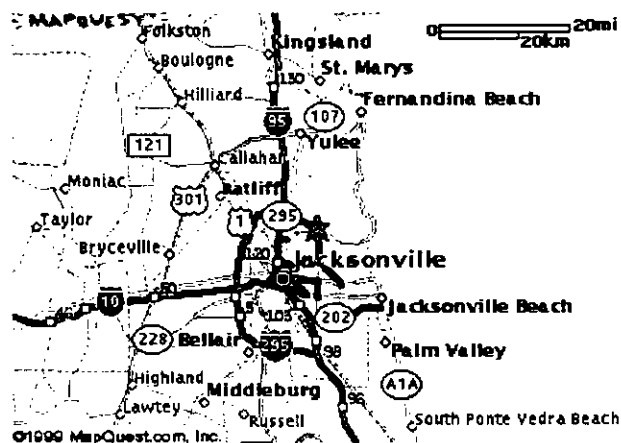


Figure 1 – Location in Florida

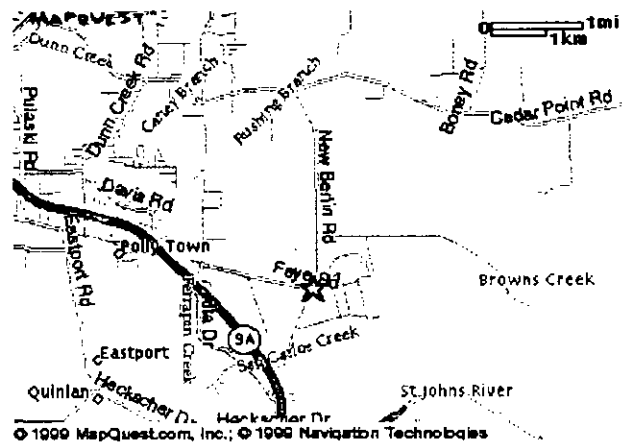


Figure 2 – Location in Duval County

### 2.2 Standard Industrial Classification Codes (SIC)

Industry Group No.	49	Electric, Gas, and Sanitary Services
Industry No.	4911	Electric Services

# TECHNICAL EVALUATION AND PRELIMINARY DETERMINATION

## 2.3 Facility Category

The Separation Technologies, Inc (STI) facility will be located on a portion of leased property within the existing St. Johns River Power Park (SJRPP). STI will construct, own, and operate the proposed equipment. The proposed equipment will consist of two flyash receiving bins, one carbon separation unit, one clean-up vacuum, one flyash surge bin, one mineral additive storage bin, and one gas-fired dryer.

For the purposes of Prevention of Significant Deterioration (PSD) review, the proposed construction by STI will be considered a minor modification to an existing major stationary source (SJRPP). The potential emissions for each criteria pollutant of the project are below the Significant Emission Rates listed in Table 62-212.400-2, F.A.C. These values are: 40 TPY for NO<sub>x</sub>, SO<sub>2</sub>, and VOC; 25/15 TPY of PM/PM<sub>10</sub>; and 100 TPY of CO.

## 3.0 Project Description

This permit addresses the following emission units.

Emission Unit	System	Emission Unit Description
044	Material Storage	Flyash Receiving Bin A
045	Material Storage	Flyash Receiving Bin B
046	Flyash Processing	Carbon Separation Unit
047	Ancillary Equipment	Clean-up Vacuum
048	Material Storage	Flyash Surge Bin
049	Material Storage	Mineral Additive Storage Bin
050	Flyash Processing	Gas-fired Dryer

STI proposes to construct a new flyash processing system on a portion of leased property at SJRPP in Duval County, Florida. The purpose of the proposed equipment is to remove the residual carbon and ammonia from the flyash leaving a saleable product. As a result of the proposed construction, environmental benefits will include a 255,000 ton reduction in the flyash currently sent to landfill by SJRPP each year and an overall reduction in the ammonia releases with the recovery and subsequent recycle of ammonia removed from the flyash.

The new flyash processing system will include the addition of two flyash receiving bins, a carbon separation unit, a clean-up vacuum, a flyash surge bin, a mineral additive storage bin, and a gas-fired dryer. The particulate emissions generated

## **TECHNICAL EVALUATION AND PRELIMINARY DETERMINATION**

from handling of the flyash will be collected from each source using pulse jet fabric filters.

The flyash processing system will be exclusively owned and operated by STI. STI has reached an agreement with the Jacksonville Electric Authority (JEA) St. Johns River Power Park to beneficiate and market the flyash that is currently produced and landfilled at the site. The equipment design of the proposed flyash processing system is based on a maximum flyash delivery rate from SJRPP of 300,000 tons per year.

The two-step beneficiation process will consist of (1) removal of the residual carbon from the flyash using STI's patented electrostatic separation technology, and (2) removal of residual ammonia from the flyash using STI's new ammonia removal technology (patent pending).

STI's triboelectric carbon separation technology partitions flyash into mineral-rich and carbon-rich fractions. The mineral-rich flyash can then be sold as a usable product. The carbon-rich flyash will be returned to SJRPP flyash storage silos for eventual disposal at the onsite landfill.

In addition to residual carbon, the flyash at SJRPP also contains trace amounts of ammonia that makes it unsuitable as a cement replacement. To solve this problem, STI plans to also install their ammonia removal process. The recovered ammonia will subsequently be returned to SJRPP for recycle.

### **4.0 Process Description**

The following section describes each emission unit proposed for construction. A process flow diagram of the flyash beneficiation process is presented in Attachment A.

#### **Flyash Receiving Bins**

The flyash from SJRPP will be pneumatically conveyed from existing silos to one of two new receiving bins (Emission Units 044 and 045). The two bins will be operated in parallel and each are equipped with a pulse jet fabric filter.

#### **Carbon Separation Unit**

The first step in the flyash beneficiation process is the removal of the carbon-rich flyash from the mineral-rich flyash product. This process involves STI's electrostatic separation technology that is similar in nature to the technology of an electrostatic precipitator in removing particulate from an air stream. Where electrostatic precipitator technology involves removal of particles from an air stream, STI's electrostatic separation technology removes particulate from a stream of solids. The separation is accomplished by passing the flyash through a high-

## **TECHNICAL EVALUATION AND PRELIMINARY DETERMINATION**

voltage direct current electrical field. Migration of the mineral-rich flyash particles from the remaining carbon-rich flyash occurs as a result of a negative charge acquired while passage through the electrical field.

The facility is designed to include two STI carbon separators with a common pulse jet dust collector. In the initial year of operation, one separator will be installed with the capacity to process 150,000 tpy of flyash. In the second year of operation, the second unit will be installed bringing total processing capacity to 300,000 tpy. The potential emissions estimates from the common dust collector are based on the full capacity of two-separator operation.

### **Clean-up Vacuum**

The building that will house the flyash processing equipment will be equipped with an electric powered industrial vacuum system specifically designed for handling hazardous or abrasive materials including flyash. The vacuum will be equipped with a pulse jet fabric filter.

### **Flyash Surge Bin**

Mineral-rich flyash leaving the Carbon Separation unit is sent to a surge bin before entering the ammonia removal system. The carbon-rich flyash leaving the Carbon Separation unit is returned to the existing storage silos at SJRPP. The flyash surge bin will be equipped with a pulse jet fabric filter.

### **Mineral Additive Storage Bin**

The ammonia removal process involves mixing the mineral-rich flyash with water and a mineral additive. The mineral additive liberates the ammonia from the flyash particles. The ammonia is then captured and sent back to SJRPP for recycle. The mineral additive storage bin is equipped with a pulse jet fabric filter.

### **Gas-fired Dryer**

The final stage in the flyash beneficiation process is drying of the wetted ammonia-free mineral-rich flyash product. The dewatering process involves direct heating of the flyash in a natural gas fired dryer. The natural gas fired burner is a Low-NO<sub>x</sub> burner design with a maximum NO<sub>x</sub> emission rate guarantee of 0.01 lbs/MMBtu of heat input while operating at maximum capacity of 12 MMBtu/hr.

## **5.0 Rule Applicability**

The proposed project is subject to preconstruction review requirements under the provisions of Chapter 403, Florida Statutes, and Chapters 62-4, 62-204, 62-210, 62-212, 62-214, 62-296, and 62-297 of the Florida Administrative Code (F.A.C.).

This facility will be located in Duval County, an area designated as attainment for all criteria pollutants in accordance with Rule 62-204.360, F.A.C. The St. Johns' River

## **TECHNICAL EVALUATION AND PRELIMINARY DETERMINATION**

Power Park is a major stationary source as defined under rule 62-212.200 F.A.C. and 40 CFR 52.21(b)(4) with potential emissions above the 100 ton per year threshold. Potential emissions from the proposed STI project are below the Significant Emission Rates as described in Section 2.3, Facility Category. As such, the proposed STI construction is not subject to review under the Prevention of Significant Deterioration program (ref. 62-212.400 F.A.C.) or Preconstruction Review for Nonattainment Areas (ref. 62-212.500 F.A.C.).

The emission units affected by this air construction permit shall comply with all applicable provisions of the Florida Administrative Code (including portions of the Code of Federal Regulations incorporated therein) and, specifically, the following Chapters and Rules:

Chapter 62-4	Permits
Rule 62-204.800	Federal Regulations Adopted by Reference
Rule 62-210.300	Permits Required
Rule 62-210.350	Public Notice and Comments
Rule 62-210.370	Reports
Rule 62-210.650	Circumvention
Rule 62-210.700	Excess Emissions
Rule 62-210.900	Forms and Instructions
Rule 62-212.300	General Preconstruction Review Requirements
Rule 62-213	Operating Permits for Major Source of Air Pollution
Rule 62-296.320	General Pollutant Emission Limiting Standards
Rule 62-296.700	Particulate Matter Emission Standards
Rule 62-296.711	Visibility Limitations and Particulate Matter Emission Standards
Rule 62-296.712	Miscellaneous Manufacturing Process Operations
Rule 62-297.310	General Test Requirements
Rule 62-297.401	Compliance Test Methods

### **6.0 Source Impact Analysis**

#### **6.1 Emission Limitations**

The proposed units will emit the following criteria pollutants (Table 212.400-2, F.A.C.): PM/PM<sub>10</sub>, VOC, SO<sub>2</sub>, NO<sub>x</sub>, CO, and negligible quantities of sulfuric acid mist (SAM), fluorides (F), mercury (Hg) and lead (Pb). The applicant's proposed annual emissions are summarized in the table below and form the basis of the technical evaluation.

#### **6.2 Emission Summary**

The annual emission increases for all criteria pollutants as a result of the project are presented in the table below:



# TECHNICAL EVALUATION AND PRELIMINARY DETERMINATION

## PROJECT EMISSIONS (TPY) and PSD APPLICABILITY

Pollutant	Potential-to-Emit <sup>1</sup>	PSD Significance	PSD REVIEW?
PM/PM <sub>10</sub>	13.65	25/15	No
SO <sub>2</sub>	0.03	40	No
NO <sub>x</sub>	0.5	40	No
CO	7.6	100	No
Ozone (VOC)	0.3	40	No
Sulfuric Acid Mist	~0	7	No
Total Fluorides	~0	3	No
Mercury	~0	0.1	No
Lead	~0	0.6	No

<sup>1</sup> Based on 8,760 hours of operation per year per unit.

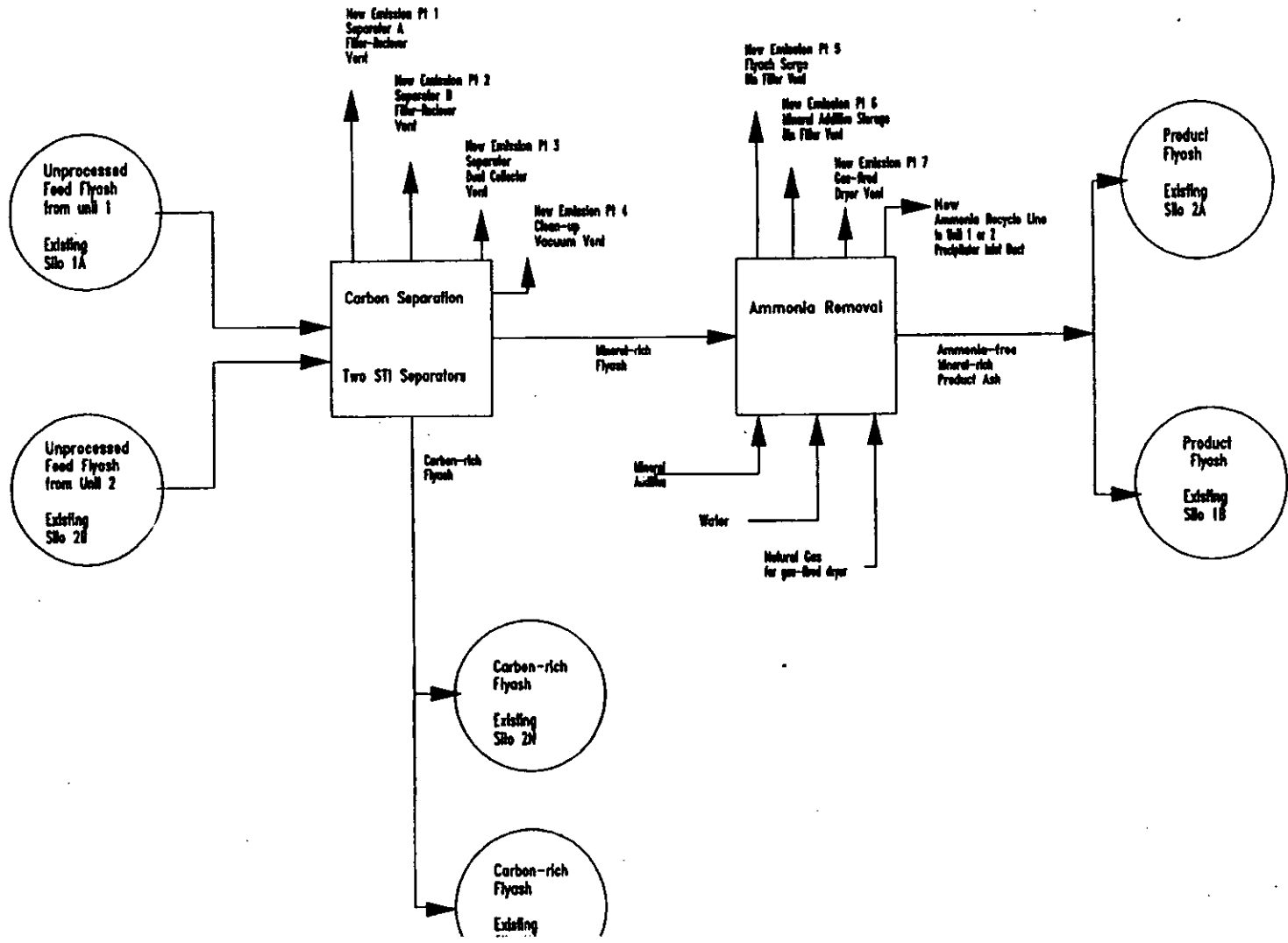
### 6.3 Control technology

Since the STI facility part will be considered part of the SJRPP facility for the purpose of Prevention of Significant Deterioration (PSD) applicability, the allowable particulate emissions of the project must be below the PSD major modification threshold of 15 tons/year. The potential particulate emissions shown in the table above are based on the manufacturers' guarantees for each dust collector.

### 7.0 Conclusion

Based on the foregoing technical evaluation of the application and additional information submitted by the applicant, the Department has made a preliminary determination that the proposed project will comply with all applicable state and federal air pollution regulations.

Syed Arif, P.E., Review Engineer



**Attachment A**

Memorandum

Florida Department of  
Environmental Protection

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TO: Clair Fancy

THRU: Al Linero *AL 4/6*

FROM: Syed Arif *Syed Arif*

DATE: April 6, 2000

SUBJECT: JEA St. Johns River Power Park  
0310001-002-AC/PSD-FL-010(D) Flyash Benefication Process

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Attached is the Public Notice and draft permit revision to authorize Separation Technologies, Inc. (STI) to beneficiate and market 300,000 tons per year of flyash produced by SJRPP that is currently landfilled onsite. The two-step process will consist of (1) removal of residual carbon from the flyash; and (2) removal of residual ammonia from the flyash, thereby leaving a saleable product. STI proposes to construct the new flyash processing system on a portion of leased property at SJRPP. As a result of the proposed construction, environmental benefits will include a 255,000 tons per year reduction in the flyash currently sent to landfill by SJRPP and an overall reduction in the ammonia releases with the recovery and subsequent recycle of ammonia removed from the flyash.

The potential PM/PM<sub>10</sub> emissions for all proposed sources combined are less than 15 tons per year. Therefore, the construction is not subject to review under the Prevention of Significant Deterioration program. PM/PM<sub>10</sub> emissions will be controlled utilizing dust collectors.

I recommend your approval and signature.

SA/a

Attachments