Florida Department of Environmental Protection

Southwest District Office
13051 North Telecom Parkway
Temple Terrace, FL 33637-0926

Rick Scott
Governor

Carlos Lopez-Cantera
Lt. Governor

Jonathan P. Steverson
Secretary

PERMITTEE

Separation Technologies, LLC
455 Fairway Drive
Deerfield Beach, FL, 33441

Authorized Representative:
Kelly Folsom, Environmental Manager

Air Permit No. 0170034-022-AO
Air Operation Permit

Separation Technologies –
Crystal River Tank Farm Annex
Citrus County, Florida

PROJECT

This is the final air operation permit, which authorizes the operation of Separation Technologies – Crystal River Tank Farm Annex, which is a fly ash storage and transfer facility (Standard Industrial Classification No. 5093). This project renews Air Operation Permit No. 0170034-014-AO. The facility is located in Citrus County at 15760 Powerline Road in Crystal River, Florida (co-located with the Duke Energy Crystal River Power Plant). The UTM coordinates are Zone 17, 334.0 N km East, and 3204.44 km North.

This final permit is organized into the following sections: Section 1 (General Information); Section 2 (Administrative Requirements and Facility-wide Specific Conditions); Section 3 (Emissions Unit Specific Conditions); and Section 4 (Appendices). Because of the technical nature of the project, the permit contains numerous acronyms and abbreviations, which are defined in Appendix A of Section 4 of this permit.

Permitting Authority: Applications for air operation permits are subject to review in accordance with the provisions of Chapter 403, Florida Statutes (F.S.) and Chapters 62-4 and 62-210 of the Florida Administrative Code (F.A.C.). The Permitting Authority responsible for making a permit determination for this project is the District Office. The Permitting Authority's physical address is: 13051 North Telecom Parkway, Temple Terrace, Florida 33637-0926. The Permitting Authority's mailing address is: 13051 North Telecom Parkway, Temple Terrace, Florida 33637-0926. The Permitting Authority's telephone number is 813-470-5700.

Petitions. A person whose substantial interests are affected by the proposed decision may petition for an administrative hearing in accordance with Sections 120.569 and 120.57, F.S. The petition must contain the information set forth below and must be filed (received) in the Department's Office of General Counsel, MS #35, 3900 Commonwealth Boulevard, Tallahassee, Florida 32399-3000, Agency_Clerk@dep.state.fl.us. Petitions filed by the applicant or any of the parties listed below must be filed within 14 days of receipt of this notice. Petitions filed by any other person must be filed within 14 days of receipt of this proposed action. A petitioner must 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, 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 each 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, as well as the rules and statutes which entitle the petitioner to relief; (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 permitting authority'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, 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 permitting authority on the application have the right to petition to become a party to the proceeding, in accordance with the requirements set forth above.

Mediation: Mediation is not available in this proceeding.

Effective Date: This permitting decision is final and effective on the date filed with the clerk of the Permitting Authority unless a petition is filed in accordance with the above paragraphs or unless a request for extension of time in which to file a petition is filed within the time specified for filing a petition pursuant to Rule 62-110.106, F.A.C., and the petition conforms to the content requirements of Rules 28-106.201 and 28-106.301, F.A.C. Upon timely filing of a petition or a request for extension of time, this action will not be effective until further order of the Permitting Authority.

Judicial Review: Any party to this permitting decision (order) 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 30 days after this order is filed with the clerk of the Department.

0170034-022-AO Effective Date: April 8, 2016
Renewal Application Due Date: February 7, 2021
Expiration Date: April 8, 2021

Executed in Hillsborough County, Florida.

for

Pamala Vazquez
Program Administrator
Permitting & Waste Cleanup Program
Southwest District

CERTIFICATE OF SERVICE

The undersigned duly designated deputy agency clerk hereby certifies that this Air Permit package was sent by electronic mail, or a link to these documents made available electronically on a publicly accessible server, with received receipt requested before the close of business on the date indicated below to the following persons.

Kelly Folsom, Titan America, LLC, kfolsom@titanamerica.com
Katherine Katsourides, Trinity Consultants, kkatsourides@trinityconsultants.com
Robert Hayden, Florida DEP Southwest District, robert.hayden@dep.state.fl.us
Danielle Henry, FDEP SWD danielle.d.henry@dep.state.fl.us

Clerk Stamp

FILING AND ACKNOWLEDGMENT FILED, on this date, pursuant to Section 120.52(7), Florida Statutes, with the designated agency clerk, receipt of which is hereby acknowledged.

Cathy Rodriguez April 8, 2016
(Clerk) (Date)

FACILITY DESCRIPTION

Separation Technologies – Crystal River Tank Farm Annex is a fly ash storage and transfer facility. The facility receives fly ash pneumatically from the onsite Duke Energy Crystal River Power Plant or from offsite facilities delivered via pneumatic truck, stores it in four storage silos and a storage tank, and loads it out, wet or dry, to trucks. The storage silos and storage tank are interconnected so that fly ash can be transferred between the units.

Potential Particulate Matter (PM) emissions are limited by a fly ash throughput limitation and by two common baghouses operating in parallel.

The facility consists of the following emissions units (EU).

EU No.	Emission Unit Description
001	Fly Ash Storage Silo M-1
003	Fly Ash Storage Silo M-2
004	Fly Ash Mass Storage Tank M-3
005	Fly Ash Storage Silo M-4
006	Fly Ash Storage Silo M-5
007	Loading fly Ash from Storage Silos to Trucks
008	Vacuum/Pressure Reclaim System

APPLICABLE REGULATIONS

A summary of applicable regulations is shown in the following table.

Regulation	EU Nos.
State Rule Citations	
Rule 62-210.300, F.A.C., Permits Required	All
Rule 62-296.320 F.A.C., Stationary Sources – Emissions Standards	All
Rule 62-297.310 F.A.C., Stationary Sources – Emissions Monitoring	All

FACILITY REGULATORY CLASSIFICATION

- The facility is not a major source of hazardous air pollutants (HAP).
- The facility does not operate units subject to the acid rain provisions of the Clean Air Act (CAA).
- The facility is not a Title V major source of air pollution in accordance with Chapter 62-213, F.A.C.
- The facility is not a major stationary source in accordance with Rule 62-212.400, F.A.C. for the Prevention of Significant Deterioration (PSD) of Air Quality.
- This facility is a synthetic non-Title V source for the pollutant Particulate Matter (PM)

PERMIT HISTORY/AFFECTED PERMITS

This permit replaces Operation Permit No. 0170034-014-AO.

SECTION 2. ADMINISTRATIVE REQUIREMENTS AND FACILITY-WIDE SPECIFIC CONDITIONS

ADMINISTRATIVE REQUIREMENTS

1. Permitting Authority: The permitting authority for this project is the Southwest District of the Department of Environmental Protection (Department). The mailing address, phone number and e-mail address is:

   Florida Department of Environmental Protection
   Southwest District Office
   Air and Solid Waste Permitting Program
   13051 North Telecom Parkway
   Temple Terrace, Florida 33637-0926
   Telephone: 813-470-5700
   E-mail: SWD_Air_Permitting@dep.state.fl.us

   All documents related to applications for permits to operate an emissions unit shall be submitted to the above e-mail address and/or address.

2. Compliance Authority: All documents related to compliance activities such as reports, tests, and notifications shall be submitted to the Florida Department of Environmental Protection (Department), Southwest District Office's Compliance Assurance Program. The mailing address, phone number and e-mail address is:

   Florida Department of Environmental Protection
   Southwest District Office
   Compliance Assurance Program
   13051 North Telecom Parkway
   Temple Terrace, Florida 33637-0926
   Telephone: 813-470-5700
   E-mail: SWD_Air@dep.state.fl.us

3. Appendices: The following Appendices are attached as a part of this permit: Appendix A (Citation Formats and Glossary of Common Terms); Appendix B (General Conditions); Appendix C (Common Conditions); and Appendix D (Common Testing Requirements).

4. Applicable Regulations, Forms and Application Procedures: Unless otherwise specified in this permit, the construction and operation of the subject emissions units shall be in accordance with the capacities and specifications stated in the application. The facility is subject to all applicable provisions of: Chapter 403, F.S.; and Chapters 62-4, 62-204, 62-210, 62-212, 62-213, 62-296 and 62-297, F.A.C. Issuance of this permit does not relieve the permittee from compliance with any applicable federal, state, or local permitting or regulations.

5. New or Additional Conditions: For good cause shown and after notice and an administrative hearing, if requested, the Department may require the permittee to conform to new or additional conditions. The Department shall allow the permittee a reasonable time to conform to the new or additional conditions, and on application of the permittee, the Department may grant additional time.
   [Rule 62-4.080, F.A.C.]

6. Modifications: No new emissions unit shall be constructed and no existing emissions unit shall be modified without obtaining an air construction permit from the Department. Such permit shall be obtained prior to beginning construction or modification.
   [Rules 62-210.300(1) and 62-212.300(1)(a), F.A.C.]

7. Renewal. Prior to 60 days before the expiration date of this permit, the permittee shall apply for a renewal of the permit. A renewal application shall be timely and sufficient. If the application is submitted prior to 60 days before expiration of the permit, it will be considered timely and sufficient. If the renewal application is submitted at a later date, it will not be considered timely and sufficient unless it is submitted and made complete prior to the expiration of the operation permit. When the application for renewal is timely and sufficient, the existing permit shall remain in effect until the renewal application has been finally acted upon by the Department. To properly apply for an operation permit, the applicant shall submit the following:

   a. the appropriate permit application form *(see current version of Rule 62-210.900, F.A.C. (Forms and Instructions), and/or FDEP Division of Air Resource Management website at: http://www.dep.state.fl.us/air/)*;

   b. the appropriate operation permit application fee from Rule 62-4.050(4)(a), F.A.C.;

   c. copies of the most recent compliance test reports required by Specific Condition No. A.9., if not previously submitted;

   d. copies of the most recent month of records/logs specified in Specific Condition No. A.10.; and

   [Rules 62-4.090, 62-210.300(2), and 62-210.900, F.A.C.]

8. Annual Operating Report (AOR): The information required by the Annual Operating Report for Air Pollutant Emitting Facility (DEP Form No. 62-210.900(5)) shall be submitted by April 1 of each year, for the previous calendar year, to the Department of Environmental Protection's (DEP) District Office. All synthetic non-Title V sources shall submit a completed DEP Form 62-210.900(5) unless the annual operating report is submitted using the DEP's electronic annual operating report software. Emissions shall be computed in accordance with the provisions of subsection 62-210.370(2), F.A.C.

   [Rule 62-210.370(3), F.A.C.]

   {Permitting Note: Resources to help you complete your AOR are available on the electronic AOR (EAOR) website at: http://www.dep.state.fl.us/air/emission/eaor. If you have questions or need assistance after reviewing the information posted on the EAOR website, please contact the Department by phone at (850) 717-9000 or email at eaor@dep.state.fl.us.}

FACILITY-WIDE REQUIREMENTS

9. Unconfined Emissions of Particulate Matter: All reasonable precautions shall be taken to prevent and control generation of unconfined emissions of particulate matter (PM) in accordance with the provisions in Rule 62-296.320, F.A.C. These provisions are applicable to any source, including but not limited to, vehicular movement, transportation of materials, construction, alteration, demolition or wrecking, or industrial related activities such as loading, unloading, storing and handling. At a minimum, the following precautions shall be taken by the permittee:

    a. Maintain a water spray truck on-site at all times for use as needed.

    b. Apply crushed concrete or other appropriate aggregate to most heavily trafficked roadways.

    c. Attend to upset conditions promptly.

    d. Make applicable plant personnel aware of the environmental requirements of the permit.

    e. Signs will be posted in appropriate areas that will limit all on-site traffic to 15 MPH, or in accordance with Duke Energy standards.

    f. Exercise good housekeeping practices at all times.

    If operating experience indicates that these reasonable precautions are not sufficient to control unconfined emissions, the Department or its designee reserves the right to require additional measures.

    [Rule 62-296.320(4)(c), F.A.C.; Construction Permit No. 0170034-015-AC]

A. EU Nos. 001, 003, 004, 005, 006, 007 & 008

This section of the permit addresses the following emissions units.

EU No.	Emission Unit Description	
001	Fly Ash Storage Silo M-1	Fly ash from the onsite Duke Energy Crystal River Power Plant is transferred pneumatically to Storage Silos M-1, M-2 and M-5, and Mass Storage Tank M-3. Fly ash can also be loaded into Storage Silos M-1, M-2, M-4, M-5 and Mass Storage Tank M-3 from pneumatic trucks. Fly ash may be transferred between any two of the five storage units (i.e., silo to silo, silo to tank, or tank to silo) for the purpose of blending for various applications. Storage Silos M-1, M-2, M-4 and M-5, and Mass Storage Tank M-3 are all cross-vented (i.e., airflows are interconnected). There are two baghouse emission control devices, one on top of Storage Silo M-1 (Baghouse E-1), and the other on top of Storage Silo M-5 (Baghouse E-4). Both are Staclean Model 64-10-BD baghouses. These two baghouses operate in parallel, controlling emissions during loading and unloading of all five storage units.
003	Fly Ash Storage Silo M-2	
004	Fly Ash Mass Storage Tank M-3	
005	Fly Ash Storage Silo M-4	
006	Fly Ash Storage Silo M-5	
007	Loading fly Ash from Storage Silos to Trucks - Fly ash is loaded from storage silos to trucks on scales located immediately under Storage Silo M-1. Dry fly ash is loaded into trucks from Storage Silos M-1, M-2 and M-5. All three storage silos are connected to a common dry fly ash load out point by an air slide. Dry fly ash is loaded into enclosed pneumatic bulk tankers via a telescopic spout. The spout sleeve removes dust to Baghouses E-1 and E-4 by way of a 4" diameter pipe tied to the top of Storage Silo M-1. The storage silos (which are cross-vented) are under negative pressure, which provides vacuum to the loading spout. Unusable fly ash is wetted and disposed of at a landfill. Wet fly ash is loaded to trucks from Storage Silos M-1, M-2 and M-5. These storage silos are connected to a pug mill, where water is added to the fly ash, by way of the same air slide mentioned above. Wet fly ash is loaded onto open top dump trucks and/or open top tractor trailer dumps via an ash mixer-unloader. The mixer is an enclosed tub with two counter rotating paddle shafts. Water is sprayed into the tub as the paddles mix the ash with water pushing it to the discharge end of the tub where it falls into the dump trucks/trailers. Wet fly ash loads are covered with a tarp prior to departure from the facility. PM emissions from wet fly ash loading are considered negligible.	
008	Vacuum/Pressure Reclaim System - The Vacuum/Pressure Reclaim System is used to pull ash from Mass Storage Tank M-3 via vacuum and pneumatically transfer the ash to either Storage Silo M-1 or M-2. Its emissions are controlled by a BHA Group, Inc. Pulse Pleat cartridge filter (Baghouse E-3).	

PERFORMANCE RESTRICTIONS

A.1. Permitted Capacity:

a. The maximum combined amount of fly ash received by all storage silos and the mass storage tank is limited to 700,000 tons per any consecutive 12-month period. This total amount includes fly ash received from the Duke Energy Crystal River Power Plant and trucks. This total amount also includes the amount of fly ash transferred between the storage units for blending purposes (See Specific Condition No. A.10. for recordkeeping requirements)

{Permitting Note: The above limit is based on 200,000 tpy from the power plant, 100,000 tpy from truck imports and 400,000 tpy inter silo/tank transfers.}

b. The maximum amount of dry fly ash loaded into trucks from the storage silos is limited to 300,000 tons per any consecutive 12-month period.

c. The maximum loading rate from the storage silos into trucks is limited to 162 tons per hour, daily average.

[Rule 62-210.200, F.A.C. (PTE); Construction Permit No. 0170034-015-AC]

A.2. Restricted Operation: The hours of operation of are not limited (8760 hours per year).
[Rules 62-4.070(3) and 62-210.200(PTE), F.A.C.]

EMISSIONS STANDARDS

A.3. Visible Emissions Standard: To ensure each baghouse is properly maintained and operated, visible emissions from each baghouse stack shall not exceed 5% opacity.
[Rule 62-210.650, F.A.C.; Construction Permit No. 0170034-015-AC]

TESTING REQUIREMENTS

A.4. Annual Compliance Tests: During each calendar year (January 1st to December 31st), each baghouse shall be tested to demonstrate compliance with the emissions standards for Visible Emissions. If an emissions unit has not operated any day during a calendar year, the annual VE test may be waived for that year. The facility shall notify the Department in writing at least 15 days before the end of the calendar year (i.e., December 31) that the annual test will not be conducted for that unit. The unit should be tested as soon as practical but no later than 30 days after resuming operation.
[Rules 62-297.310(8)(a)1 and 62-4.070(3), F.A.C.]

A.5. Test Requirements: The permittee shall notify the Compliance Authority in writing at least 15 days prior to any required tests. Tests shall be conducted in accordance with the applicable requirements specified in Appendix D (Common Testing Requirements) of this permit.
[Rule 62-297.310(9), F.A.C.]

A.6. Test Method: Required tests shall be performed in accordance with the following reference method:

Method	Description of Method and Comments
9	Visual Determination of the Opacity of Emissions from Stationary Sources

The above methods are described in Appendix A of 40 CFR 60 and are adopted by reference in Rule 62-204.800, F.A.C. No other methods may be used unless prior written approval is received from the Department.

[Rules 62-204.800, F.A.C.; and Appendix A of 40 CFR 60]

A.7. Operation during Compliance Testing: The following compliance testing procedures shall be adhered to during the visible emissions (VE) compliance testing of the Baghouses E-1, E-3 and E-4:

a. Baghouse E-1 shall be tested during loading of Silo M-1 from the power plant while all supply lines to other silos are closed (all input into Silo M-1)*; and trucks are simultaneously being loaded from the silos; and fly ash is simultaneously being transferred from Mass Storage Tank M-3 to Silo M- 1 while all supply lines to other silos are closed (all input into M-1).

b. Baghouse E-3 shall be tested during transfer of fly ash out of Mass Storage Tank M-3 to Storage Silos M-1 or M-2.

c. Baghouse E-4 shall be tested during loading of Silo M-5 from the power plant while all supply lines to other silos are closed (all input into Silo M-5)*.

{**Permitting Note: silo loading rate during this operation is controlled by the power plant. This facility has no control over the loading rate.*}

[Rule 62-4.070(3), F.A.C.; Construction Permit 0170034-015-AC]

A.8. Operation Rate during Compliance Testing: Testing of visible emissions (VE) from baghouse E-1 shall be conducted within 90-100% of the maximum daily average truck loading rate of 162 tons/hour of dry fly ash. A compliance test submitted at an operating rate less than 90% of the permitted rate shall automatically constitute an amended permit at the lesser rate plus 10%. Once the operating rate is so limited, operation at higher rate is allowed for no more than 15 consecutive days for the purpose of additional compliance testing to regain the authority to operate at the permitted input capacity. Acceptance of the test by the Department will constitute an amended permit at the higher rate plus 10%, but in no case shall the maximum daily average truck loading rate of 162 tons/hour be exceeded. The truck loading rate (tons/hour) for the test day shall be included with the test report. Failure to document and submit the loading rate and actual operating conditions in the test report may invalidate the test data. [Rules 62-297.310(2) and 62-4.070(3), F.A.C.; Construction Permit No. 0170034-015-AC]

RECORDS AND REPORTS

A.9. Test Reports: The permittee shall prepare and submit reports for all required tests in accordance with the requirements specified in Appendix D (Common Testing Requirements) of this permit. For each test run, the report shall also indicate which baghouse is being tested and the loading/transfer rate during the test. [Rule 62-297.310(10), F.A.C.]

A.10. Daily and Monthly Logs for Fly Ash Handling and Throughput: The permittee shall maintain the following records:

Monthly Logs:

The following shall be recorded monthly:

a. Month and year of the record;

b. Total amount of fly ash received by each storage silo or tank during the month in tons. This includes fly ash received from the power plant, trucks or transferred from another storage silo or tank;

c. Total amount of fly ash received by all storage silos and the storage tank during the month in tons;

d. Total amount of fly ash received by all storage silos and the storage tank during the most recent consecutive 12-month period in tons;

e. Total amount of dry fly ash loaded into trucks from the storage silos for the month in tons; and

f. Total amount of dry fly ash loaded into trucks from the storage silos during the most recent consecutive 12-month period.

Daily Logs:

The following shall be recorded for each day dry fly ash is loaded into trucks from the storage silos:

a. Date (month/day/year) of the record;

b. Quantity of dry fly ash loaded from the storage silos into trucks for the day in tons;

c. Hours of truck loading operation for the day; and

d. Daily average truck loading rate for the day (i.e., item b. divided by item c.) in tons/hour.

[Rule 62-4.070(3), F.A.C.; Construction Permit No. 0170034-015-AC]

A.11. Record Retention – All monthly records shall be completed by the end of the following month. All daily records shall be completed within five (5) business days. All records, supporting documentation, monitoring data, and all compliance test information required by these permits shall be maintained on site for a minimum of three (3) years and shall be made available to the Department upon request.
[Rules 62-4.160(14)(b) and 62 4.070(3), F.A.C.]