

STATE OF FLORIDA  
DEPARTMENT OF ENVIRONMENTAL PROTECTION  
NOTICE OF FINAL PERMIT MODIFICATION

In the Matter of an  
Application for Permit Modification


Mr. Walter P. Bussells  
JEA  
21 West Church Street  
Jacksonville, Florida 32202-3139

Permit: PSD-FL-010(C) / PA-81-13

Enclosed is the FINAL Permit Modification which reflects the increase of material handling rates at the St. Johns River Power Park in Duval County. This permit is issued pursuant to Chapter 403, Florida Statutes and 62-4 through 297, F.A.C and 40 CFR 52.21 - Prevention of Significant Deterioration(PSD).

Any party to this order (permit) has the right to seek judicial review of the permit pursuant to Section 120.68, F.S., by the filing of a Notice of Appeal pursuant to Rule 9.110, Florida Rules of Appellate Procedure, with the Clerk of the Department in the Legal Office; 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 of Appeal must be filed within 30 (thirty) days from the date this Notice is filed with the Clerk of the Department.

Executed in Tallahassee, Florida.

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

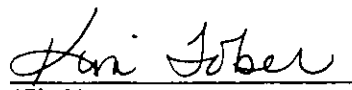
**CERTIFICATE OF SERVICE**

The undersigned duly designated deputy agency clerk hereby certifies that this NOTICE OF FINAL PERMIT (including the FINAL permit) was sent by certified mail (\*) and copies were mailed by U.S. Mail before the close of business on 7-29-99 to the person(s) listed:

Mr. Walter P. Bussells, JEA \*  
Mr. Gregg Worley, EPA  
Mr. John Bunyak, NPS  
Mr. Chris Kirts, DEP NED  
Mr. Robert S. Pace, RESD  
Mr. Hamilton S. Oven, DEP PPSO

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) 7-29-99  
(Date)

## **FINAL DETERMINATION**

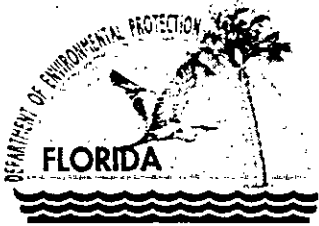
### **JEA St. Johns River Power Park (SJRPP) Materials Handling Modifications Permit No. PSD-FL-010(C) / PA-81-13**

An Intent to Issue a PSD Permit Modification for JEA SJRPP, located at 11201 New Berlin Road, Jacksonville, Duval County, Florida, was distributed on June 11, 1999. The Public Notice of Intent to Issue PSD Permit Modification was published in the Florida Times-Union on June 21, 1999. Copies of the draft permit modification were available for public inspection at the Department offices in Jacksonville and Tallahassee.

The National Park Service, the U.S. Environmental Protection Agency or the public submitted no comments. The Department modified the amendment letter to explain more fully the changes taking place for the materials handling at SJRPP to support the Northside repowering project. An additional condition was added for throughput rates for coal, petroleum coke and limestone that can be transferred from SJRPP to the Northside Generating Station.

This PSD permitting action was coordinated with SJRPP's Site Certification issued under the Power Plant Siting Act (PPSA), Sections 403.501-403.518, F.S. Pursuant to Condition of Certification No. XXV.B of the separate Site Certification Order for SJRPP (PA-81-13), the PPSA certification will be automatically modified to conform to amendments to SJRPP's PSD Permit (PSD-FL-010 (C)).

The final action of the Department is to issue the permit with the changes noted above.



Jeb Bush  
Governor

# Department of Environmental Protection

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

David B. Struhs  
Secretary

July 28, 1999

CERTIFIED MAIL - RETURN RECEIPT REQUESTED

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

Re: Permit Amendment--Materials Handling Operations  
St. Johns River Power Park; Duval County  
PSD Permit No. PSD-FL-010(C)

Dear Mr. Bussells:

The Department hereby amends the specific conditions related to materials handling operations in the subject Final Determination (dated March 12, 1982) pursuant to 40 CFR 52.21--Prevention of Significant Deterioration (PSD Permit). The PSD Permit, previously amended on October 28, 1986 and on October 11, 1996, is further amended as follows:

- A. To establish the maximum annual quantities of coal, petroleum coke, and limestone that will be transferred from the St. Johns River Power Park (SJRPP) to the adjoining Northside Generating Station, the following new condition is being added:

Condition 2.C.

The total amount of coal and petroleum coke and the total amount of limestone transferred from SJRPP to the Northside Generating Station shall not exceed 2.42 million tons per year and 1.45 million tons per year, respectively.

- B. Because new materials handling units and activities are planned for SJRPP to support the Northside Generating Station Units 1 and 2 Repowering Project, permit language is being added to require all new units and activities to undergo initial compliance testing. In addition, permit language is being added to recognize annual testing requirements already required under the Site Certification for SJRPP for existing units.

Condition 3 FROM: First Paragraph: no change.

Second Paragraph: Opacity tests shall be performed for emission points three (3) through nineteen (19) of revised Table 6 for compliance purposes. If the opacity limits are not met for those sources that exhaust through a stack, permit compliance shall be determined on the basis of

Walter Bussells  
JEA  
July 28, 1999  
Page 2

mass emission rate tests.

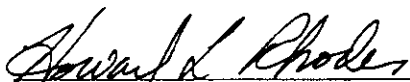
TO: Second Paragraph: Opacity tests shall be performed for the emission points in Part C of revised Table 6 for compliance purposes, initial only using a Method 9 test. If the opacity limits are not met for those sources that exhaust through a stack, permit compliance shall be determined on the basis of mass emission rate tests. In addition to these initial tests, a Method 9 test shall be conducted annually for the limestone silos, non-saleable ash silos, and saleable ash silos.

Conditions 3A, 3B & 3C: No change.

Tables 2 and 6: Replaced with new Table 6.

A copy of this amendment letter shall be attached to and shall become a part of Permit PSD-FL-010.

STATE OF FLORIDA DEPARTMENT  
OF ENVIRONMENTAL PROTECTION

  
Howard L. Rhodes, Director  
Division Air Resources Management

SJRPP PSD PERMIT  
PSD-FL-010(C)

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Table 6 – Part A

Emissions Unit	SO <sub>2</sub>	NO <sub>x</sub>	PM	Opacity (%)
Steam Generating Boiler No. 1 (6,144 MMBtu/hr maximum heat input)	4,669 lb/hr 0.76 lb/mmBtu (30-day rolling average)	3,686 lb/hr 0.6 lb/mmBtu	184 lb/hr 0.03 lb/mmBtu	20
Steam Generating Boiler No. 2 (6,144 MMBtu/hr maximum heat input)	4,669 lb/hr 0.76 lb/mmBtu (30-day rolling average)	3,686 lb/hr 0.6 lb/mmBtu	184 lb/hr 0.03 lb/mmBtu	20
Cooling Towers			67 lb/hr (each tower)	N/A

**SJRPP PSD PERMIT**

**PSD-FL-010(C)**

**Table 6 – Part B**

<b>Existing Materials Handling Operations</b>	<b>PM/PM<sub>10</sub> (lb/hr)</b>	<b>Opacity (%)</b>
Railcar Rotary Dumper – Building Emissions	0.15/0.07	10
Conveyor C-3 Tunnel Ventilation – 6,400 cfm	0.32/0.02	5
Conveyor C-3 Tunnel Ventilation – 6,400 cfm	0.32/0.02	5
Conveyor C-3 Tunnel Ventilation – 21,600 cfm	0.10/0.05	5
Shiphold	0.54/0.26	10
Unloader Hopper and Spillage Collector Transfers	0.28/0.13	10
Ship Unloader Hopper, Transfer to CT-1, Spillage Conveyor	1.0/0.48	10
Transfer Station No. 1	0.04/0.02	5
Transfer Station No. 2	0.04/0.02	5
Transfer Station No. 3	0.05/0.02	5
Transfer Station No. 4	0.04/0.02	5
Transfer Station No. 5	0.04	5
Transfer Station No. 6	0.04	5
Transfer Station No. 7	0.04	5
Transfer Point 9GC-04 to 9GC-05	0.007	5
Stacker/Reclaimer (Stacker Mode)	2.29	10
Stacker	1.15	10
Reclaimer	0.43	10
Petroleum Coke Reclaimer System	0.32	10
Emergency Reclaim Hoppers – Loadout	0.29	10
Limestone Reclaim Hopper	0.14	10
Limestone Railcar Dumper	0.005	10
Limestone Loadout	0.005	10
Limestone Truck Loadout & Transfer	0.1	10
Limestone Storage Pile #1 – Existing	0.26/0.26	10
Limestone Storage Pile #2 - Fuel Yard	0.12	10
Coal Pile	0.26/0.26	10
Petroleum Coke Pile	0.71/0.71	10
Gypsum Storage Pile (Non-Commercial)	0.07	10
Fly Ash Loadouts 1A	0.06	10
Fly Ash Loadouts 1B	0.06	10
Fly Ash Loadouts 2A	0.06	10
Fly Ash Loadouts 2B	0.06	10
Bottom Ash Loadouts 1A	0.09	10
Bottom Ash Loadouts 1B	0.09	10
Bottom Ash Loadouts 2A	0.09	10
Bottom Ash Loadouts 2B	0.09	10
Gypsum Dewatering Building	0.04	5
Gypsum Storage Enclosure	0.008	5
Gypsum Truck Loadout	0.28	5
Solid Waste Disposal Area	0.31	10
Unpaved Road, By-Product Transport	0.58	10
Rotary Railcar Unloader, Fuel Transfer Points (DC-1)	0.17/0.08	5
Fuel Transfer Building	0.65/0.31	10
Fuel Handling Building (DC-3)	0.24	5
Unit #1 Fuel Storage Bins (DC-4)	0.009	5
Unit #2 Fuel Storage Bins (DC-5)	0.009	5
Railcar Unloader, Limestone Transfer Points (LDC-1)	0.02	5
Limestone Loadout Facility (LDC-2)	0.006	5

SJRPP PSD PERMIT  
PSD-FL-010(C)

Table 6 – Part C

New Materials Handling Operations	PM/PM <sub>10</sub> (lb/hr)	Opacity (%)
Hopper Belt, Spillage Conveyors, and DC-1 Transfer Points - New Ship Unloader	0.13/0.06	10
Shiphold – New	0.54/0.26	10
Unloader Hopper and Spillage Collector Transfers - New Ship Unloader	0.28/0.13	10
Enclosed Pile – Vehicle Activities	0.04/0.01	5
Enclosed Storage Pile - 3 Transfer Points	0.13/0.06	5
Transfer Tower D-1	0.04/0.02	5
Transfer Tower D-2	0.04/0.02	5
New Blend Hopper	0.12/0.06	5
New Transfer Tower #1-NGS	0.09/0.04	5
New Transfer Tower #2-NGS	0.09/0.04	5
New Stacker	0.66/0.31	10
NGS Reclaimer	0.52/0.24	10
SJRPP Reclaimer	0.52/0.24	10
New Reclaim Transfer Tower	0.04/0.02	5
New Transfer Tower #3-NGS	0.08/0.04	5
New Transfer Tower #4-NGS	0.06/0.03	5

Note: PM<sub>10</sub> limits apply only to new and modified emission points. If only one standard is listed, the standard applies to PM emissions.

**APPENDIX BD**  
**BEST AVAILABLE CONTROL TECHNOLOGY DETERMINATION (BACT)**

**St. Johns River Power Park**  
**Permit No. (PSD-FL-010(C))**  
**Jacksonville, Duval County, Florida**

**BACKGROUND**

The applicant, JEA (formerly known as the Jacksonville Electric Authority), has proposed to modify its materials handling facilities and operations at the St. Johns River Power Park (SJRPP) and St. Johns River Coal Terminal (SJRCT) to accommodate repowering of the adjacent Northside Generating Station (NGS) Units 1 and 2 at NGS. These units are being repowered with coal and petroleum coke fired Circulating Fluidized Bed (CFB) boilers. The proposed project will result in "significant increases" with respect to Table 62-212.400-2, Florida Administrative Code (F.A.C.) for emissions of particulate matter (PM and PM<sub>10</sub>) at SJRPP. The project is therefore subject to review under the Prevention of Significant Deterioration (PSD) program and a determination of Best Available Control Technology (BACT) is required in accordance with Rule 62-212.400, F.A.C. for PM/PM<sub>10</sub> for the new and modified facilities and operations at SJRPP.

New and existing materials handling and storage facilities and operations at SJRPP and SJRCT will be utilized to support the NGS Repowering Project. At SJRCT, the proposed project will include the use of the existing ship unloader, conveyors and transfer stations. In addition, a new ship unloader, conveyors, transfer towers and an enclosed storage pile will be constructed. At SJRPP, the proposed project will utilize the existing railcar rotary dumper, conveyors, transfer stations, and storage pile. In addition, the existing storage pile will be increased in size and new stackers, reclaimers, conveyors and transfer towers constructed.

Descriptions of the process, project, air quality effects, and rule applicability for the new and modified materials handling facilities and operations at SJRPP are given in the Technical Evaluation and Preliminary Determination dated May 13, 1999 for both SJRPP and NGS. This BACT determination addresses only the facilities and operations within the SJRPP property boundary. Facilities and operations associated with the Repowering Project within the NGS property boundary are addressed within a separate BACT determination and new permit (PSD-FL-265).

**DATE OF RECEIPT OF A BACT APPLICATION:**

The application was received on February 15, 1999, revised on May 4, 1999, and included a BACT proposal prepared by the applicant.

**REVIEW GROUP MEMBERS:**

Syed Arif, Review Engineer

**BACT DETERMINATION REQUESTED BY THE APPLICANT:**

Materials Handling & Storage Operations - Particulate Matter

Handling & Storage Operation	Control Technologies	Projected Project Emission Levels
Ship Unloading Operations		
Shiphold	1, 4 & 6	10% Opacity
Receiving Hoppers	1, 3, 4 & 6	10% Opacity
Receiving Conveyors	1, 4 & 6	10% Opacity
Conveyors	1, 4 & 6	5% Opacity
Transfer Towers	1, 2, 4 & 6	5% Opacity
Stackers/Reclaimers		
SJRCT Enclosed Storage Pile	1, 3, 4 & 6	5% Opacity
SJRPP Existing SJRPP Storage Pile	1, 3, 4 & 6	10% Opacity
Storage Piles		
SJRCT Enclosed Storage Pile	1, 3, 4 & 6	5% Opacity
SJRPP Existing SJRPP Storage Pile	1, 3 & 6	10% Opacity



**APPENDIX BD**  
**BEST AVAILABLE CONTROL TECHNOLOGY DETERMINATION (BACT)**

Materials Handling & Storage Operations - Particulate Matter

Handling & Storage Operation	Control Technologies	Projected Project Emission Levels
Rotary Railcar Dumper		
Building Fugitives	1, 3, 4 & 6	10% Opacity
Fuel Transfer Building	1, 3, 4 & 6	10% Opacity
Underground Transfer Points	1, 3, 4, & 5	5% Opacity
Control Strategies: 1. Conditioned Materials 2. Wet Suppression, as needed 3. Water Sprays, as needed 4. Enclosures (Total, Partial, Covers, & Wind Screens) 5. Fabric Filter 6. Best Operating Practices		

**BACT DETERMINATION PROCEDURE:**

In accordance with Chapter 62-212, F.A.C., this BACT determination is based on the maximum degree of reduction of each pollutant emitted which the Department of Environmental Protection (Department), on a case-by-case basis taking into account energy, environmental and economic impacts and other costs, determines is achievable through application of production processes and available methods, systems, and techniques. In addition, the regulations state that, in making the BACT determination, the Department shall give consideration to:

- Any Environmental Protection Agency determination of BACT pursuant to Section 169, and any emission limitation contained in 40 CFR Part 60 - Standards of Performance for New Stationary Sources or 40 CFR Part 61 - National Emission Standards for Hazardous Air Pollutants.
- All scientific, engineering, and technical material and other information available to the Department.
- The emission limiting standards or BACT determination of any other state.
- The social and economic impacts of the application of such technology.

The EPA currently stresses that BACT should be determined using the "top-down" approach. The first step in this approach is to determine, for the emission unit in question, the most stringent control available for a similar or identical emission unit or emission unit category. If it is shown that this level of control is technically or economically infeasible for the emission unit in question, then the next most stringent level of control is determined and similarly evaluated. This process continues until the BACT level under consideration cannot be eliminated by any substantial or unique technical, environmental, or economic impacts.

For the proposed SJRPP materials handling and storage operations, the applicable New Source Performance Standards (NSPS) include the following:

- 40 CFR Part 60, Subpart Y - Standards of Performance for Coal Preparation Plants.
- 40 CFR Part 60, Subpart OOO - Standards of Performance for Nonmetallic Mineral Processing Plants

No National Emission Standards for Hazardous Air Pollutants (NESHAPs) exist for coal, petroleum coke or limestone materials handling systems. A determination of the Maximum Achievable Control Technology (MACT) was not required since the materials handling and storage operations are not major emitters of HAPs.

**STANDARDS OF PERFORMANCE FOR NEW STATIONARY SOURCES:**

The materials handling and storage operations, with the exception of the open storage piles, are subject to 40 CFR Part 60, Subpart Y when handling coal. For these operations, Subpart Y prohibits visible emissions of 20 percent opacity or greater from any coal processing and conveying equipment, coal storage system (except open storage), or coal transfer and loading systems. The applicant has proposed visible emissions limitations of 5 and 10 percent opacity on the various operations, as appropriate. The proposed BACT levels are more stringent than the existing NSPS requirements of Subpart Y.

## APPENDIX BD

### BEST AVAILABLE CONTROL TECHNOLOGY DETERMINATION (BACT)

The materials handling and storage operations, with the exception of the open storage piles and truck dumping operations, are also subject to 40 CFR Part 60, Subpart OOO when handling limestone. For these operations, the proposed BACT levels are more stringent than the existing NSPS requirements of Subpart OOO and include a 5% opacity limit on the Limestone Conveyors, Transfer Points, and Enclosures.

#### DETERMINATIONS BY EPA AND STATES:

#### BACKGROUND ON MATERIALS HANDLING OPERATIONS

The proposed NGS Repowering Project may involve the handling and storage of coal, petroleum coke, and limestone at SJRPP and SJRCT. Within the application, JEA identified two scenarios associated with the handling, storage and processing of coal, petroleum coke and limestone.

JEA's Base Case for the NGS Repowering Project involves the construction of a new ship unloading facility near the existing NGS fuel dock supported by the existing Rotary Railcar Dumper at SJRPP, which could be connected to the NGS by a new conveyor. JEA's Alternate 1 involves the construction of additional equipment at SJRCT including a second ship unloader, additional conveyors and transfer points and an enclosed storage pile as well as additional conveyors and transfer points, stackers and reclaimers, and slightly expanding the existing storage pile at SJRPP. From the SJRCT, enclosed storage pile and ship unloader, limestone will be conveyed directly to the NGS Limestone Storage Pile. From the SJRCT, enclosed storage pile and ship unloader, coal and petroleum coke will be conveyed to the SJRPP storage pile, reclaimed and conveyed to the NGS.

The existing SJRPP Rotary Railcar Dumper will support the NGS Repowering Project under both scenarios, increasing the potential fuel throughput of the SJRPP Rotary Railcar Dumper from 5.13 million tons (SJRPP Requirement) to 7.55 million tons per year. Under the Base Case, coal and petroleum coke will be delivered to the enclosed NGS fuel storage pile at a maximum rate of 1,500 TPH on a new conveyor system connecting SJRPP and NGS. Under Alternate 1, coal and petroleum coke will be delivered to the existing SJRPP storage pile at a maximum rate of 4,000 TPH, reclaimed and conveyed to NGS at a maximum rate of 1,500 TPH on a new conveyor system.

#### CONTROL TECHNOLOGIES:

#### PARTICULATE MATTER (PM/PM<sub>10</sub>) CONTROL TECHNOLOGIES

Particulate matter emissions will be generated by the materials handling and storage operations and are typically controlled by one or more strategies. Typical strategies include but are not limited to the following:

1. Handling and storing bulk materials in a wet or semi-wet condition. These materials are considered "conditioned materials" and will typically have moisture contents greater than 3.5 percent.
2. Direct application of water and/or chemicals to bulk materials for purposes of increasing moisture content and/or stabilizing small particles is considered a "Wet Suppression" technique.
3. Indirect application of water to materials for purposes of knocking down fugitive dust once it is released from the operation is considered the use of "Water Sprays."
4. Total or partial enclosures, or wind breaks/guards to reduce or eliminate particulate emissions or causes of such emissions.
5. Best operating practices includes design features and operating practices to reduce or eliminate the causes of fugitive dust emissions.
6. Dust collection systems which collect and control particulate emissions from partial or totally enclosed operations with the use of an add-on AQCS.

The most stringent control technology is the total enclosure of the emissions unit or activity which is generating the particulate matter. However, in some cases this approach is not practical based on either economic or safety reasons and the available control strategies must be implemented.

For dry materials handling activities which are totally or partially enclosed and require industrial ventilation (Dust Collection System) for health or safety reasons and which accordingly are vented to the outside, the use of an add-on AQCS is typically required as BACT. The most stringent control technology applied to dust collection systems is the

## APPENDIX BD

### BEST AVAILABLE CONTROL TECHNOLOGY DETERMINATION (BACT)

use of a fabric filter. The most stringent emission limitation associated with materials handling operation AQCS's is a grain loading of 0.01 gr/dscf and a 5% opacity standard. For the underground transfer points associated with the Railcar Rotary Dumper's underground transfer points, a dust collection system and a fabric filter are employed to control PM/PM<sub>10</sub> emissions and comply with the 5% opacity standard.

For the materials handling and storage operations (Emissions Unit 23) which do not require ventilation for health or safety reasons, the applicant has proposed the use of control strategies 1-5 listed above, or combinations thereof. Implementation of the control strategies will ensure that the 5% and 10% opacity limitations are met from the operations.

For the transfer towers, SJRCT enclosed storage pile operations and conveyors, the applicant has proposed the use of conditioned materials, wet suppression, best operating practices and covers, as needed, to ensure that visible emissions do not exceed 5 percent opacity from the operations.

For the Ship Unloading Operations, the Railcar Rotary Dumper Building, the fuel transfer building, and the existing SJRPP storage pile, the applicant has proposed the use of conditioned materials and water sprays, as needed, in addition to the partial enclosures of the shiphold, the Railcar Rotary Dumper, the fuel transfer building and the ship unloading hoppers, to ensure that visible emissions do not exceed 10 percent opacity from the operations.

For the Ship Unloader Conveyors (CT-1 & D-1), the applicant has proposed the use of conditioned materials and wind screens to ensure that visible emissions do not exceed 10 percent opacity from the operations.

Information provided by the applicant indicated the economic impact associated with the use of additional dust collection systems equipped with a fabric filter would require an additional capital investment of about \$83,600 and annual operating costs of about \$37,900 per system. The economics were based on the individual transfer operations with less than 2 transfer points and transfer rates of 1,500 TPH and 2.42 million TPY of coal and petroleum coke, and initial particulate matter emissions of 3.9 TPY. With potential reductions of 99 percent over the proposed controls, the use of a dust collection system and fabric filter resulted in an estimated incremental cost of about \$9,770 per ton. The \$9,770/ton incremental cost is excessive by comparison with the Department's Indiantown BACT Determination which reported costs of \$9,244/ton as excessive. Therefore, BACT for the materials handling operations at SJRPP and SJRCT supporting transfer operations is the use of conditioned materials, partial enclosures, water sprays, and/or wet suppression, as needed.

#### DEPARTMENT BACT DETERMINATION

Following are the BACT limits determined for the materials handling operations at SJRPP and SJRCT supporting the NGS Repowering Project. The emission limits and the applicable averaging times, will be identified in a new Table 6 of the amended SJRPP PSD Permit.

##### Materials Handling & Storage Operations - Particulate Matter

Handling & Storage Operation	Control Technologies	Proposed BACT Limits
Ship Unloading Operations		
Shiphold	1, 4 & 6	10% Opacity
Receiving Hoppers	1, 3, 4 & 6	10% Opacity
Receiving Conveyors	1, 4 & 6	10% Opacity
Conveyors	1, 4 & 6	5% Opacity
Transfer Towers	1, 2, 4 & 6	5% Opacity
Stackers/Reclaimers		
SJRCT Enclosed Storage Pile	1, 3, 4 & 6	5% Opacity
SJRPP Existing Storage Pile	1, 3 & 6	10% Opacity
Storage Piles		
SJRCT Enclosed Storage Pile	1, 3, 4 & 6	5% Opacity
SJRPP Existing Storage Pile	1, 3 & 6	10% Opacity
Rotary Railcar Dumper		
Building Fugitives	1, 3, 4 & 6	10% Opacity
Fuel Transfer Building	1, 3, 4 & 6	10% Opacity

## APPENDIX BD

### BEST AVAILABLE CONTROL TECHNOLOGY DETERMINATION (BACT)

#### Materials Handling & Storage Operations - Particulate Matter

Handling & Storage Operation	Control Technologies	Proposed BACT Limits
Underground Transfer Points	1, 3, 4, & 5	5% Opacity
Control Strategies:		
<ol style="list-style-type: none"> <li>1. Conditioned Materials</li> <li>2. Wet Suppression, as needed</li> <li>3. Water Sprays, as needed</li> <li>4. Enclosures (Total, Partial, Covers, &amp; Wind Screens)</li> <li>5. Dust Collection System - AQCS</li> <li>6. Best Operating Practices</li> </ol>		

#### RATIONALE FOR DEPARTMENT'S DETERMINATION

- Visible emissions of 10 percent (%) or less from the ship unloading operations (Shiphold & Receiving Hopper), the ship unloading conveyors, the fuel transfer building, and the existing SJRPP storage pile are as stringent as or more stringent than other BACT determinations made by the Department for materials handling operations. The handling of conditioned materials, the use of partial enclosures and wind screens, and best operating practices are the most stringent control technologies available and therefore constitute BACT.
- A 5% opacity standard from the transfer points, covered conveyors, and enclosed storage pile is as stringent as or more stringent than other BACT determinations made by the Department for materials handling operations. The handling of conditioned materials, partial enclosures, covers, wet suppression and best operating practices are BACT.
- Visible emissions of 10 % and 5% opacity from the Railcar Rotary Dumper building and dust collection system, respectively, are as stringent as or more stringent than the NSPS requirements of 40 CFR Part 60, Subpart Y and other BACT determinations. The use of enclosures and water sprays for fugitive controls from the building and the dust collection system and a fabric filter for the transfer points represent the most stringent control technology available and therefore constitute BACT.
- For the individual transfer points, BACT for particulate matter (PM/PM<sub>10</sub>) was determined to be the use of conditioned materials, partial enclosures, and wet suppression, as needed. The use of dust collection systems equipped with fabric filters to further control particulate matter (PM/PM<sub>10</sub>) emissions was evaluated by the applicant based on the US. Environmental Protection Agency's Cost Control Manual and additional information from a baghouse vendor. Total capital costs of \$83,600, annualized costs of \$37,900 per year, and incremental costs of about \$9,700 per ton to control particulate matter emissions were estimated for each transfer point. The \$9,770/ton incremental cost is excessive in comparison with the Department's Indiantown BACT Determination which found costs of \$9,244/ton as excessive.

#### COMPLIANCE PROCEDURES

For the existing materials handling and storage operations, the compliance procedures are addressed in the amended PSD Permit. For the proposed new materials handling and storage operations the compliance procedures are addressed below.

#### Materials Handling and Storage Operations

Emissions Unit/Activity	EPA Method(s)	Duration of VE Test	Frequency	Material
New Shiphold Operations (EU 23c)	9	30 min	I only	C or PC
New Ship Unloader Hoppers & Spillage Conveyors (EU23d)	9	3 hr	I only	C & LS
New Conveyors (EU 23)	9	3 hr	I only	C & LS
New Transfer Towers (EU 23e)	9	3 hr	I only	C & LS
SJRCT Enclosed Storage Building (EU223k)	9	30 min	I only	C or PC

**APPENDIX BD**  
**BEST AVAILABLE CONTROL TECHNOLOGY DETERMINATION (BACT)**

Materials Handling and Storage Operations

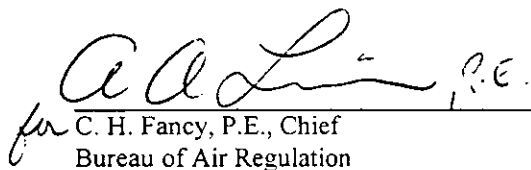
Emissions Unit/Activity	EPA Method(s)	Duration of VE Test	Frequency	Material
SJRPP Storage Pile - New Stacking & Reclaiming Operations (EU23k)	9	30 min	I only	C or PC
C - Coal I - Initial LS - Limestone PC - Petroleum Coke				

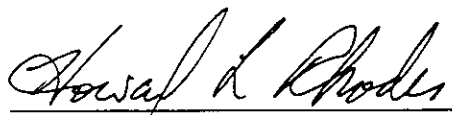
**DETAILS OF THE ANALYSIS MAY BE OBTAINED BY CONTACTING:**

Syed Arif, Review Engineer, New Source Review Section  
Department of Environmental Protection  
Bureau of Air Regulation  
2600 Blair Stone Road  
Tallahassee, Florida 32399-2400

Recommended By:

Approved By:

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

  
Howard L. Rhodes, Director  
Division of Air Resources Management

7/28/99  
Date:

7/28/99  
Date:

# Memorandum

## Florida Department of Environmental Protection

BAR

TO: Howard L. Rhodes

THRU: Clair Fancy *ccy for CMF*  
Al Linero *ccy*

FROM: Syed Arif *Syed Arif*

DATE: July 27, 1999

SUBJECT: JEA St. Johns River Power Park (SJRPP)  
PSD-FL-010(C) / PA-81-13 Materials Handling Operations

Attached for approval and signature is the final modification for the above referenced permit. A Best Available Control Technology determination was required for particulate matter, and the facility was required to do a public notice.

The throughput of coal, petroleum coke, and limestone will be increased at SJRPP to support the requirements of two new circulating fluidized bed boilers that will be constructed at the adjacent Northside Generating Station (NGS) pursuant to Permit PSD-FL-265. The project at NGS will utilize the existing railcar rotary dumper, conveyors, transfer stations, and storage pile at SJRPP. The existing storage pile size will be increased and new stackers, reclaimers, conveyors, and transfer towers will be constructed. The materials handling project will not cause increased utilization of or emissions from the existing coal and petroleum coke-fired boilers located at SJRPP, but will generate increased emissions of particulate matter from support operations.

The project modification provides reasonable assurance that all the requirements of the permit will be complied with. I recommend your approval and signature.

Day 90 for the project is August 4, 1999.