Progress Energy

July 12, 2006

Mr. Jeff Koerner
FDEP
North Permitting Section
Division of Air Resource Management
2600 Blair Stone Road MS 5500
Tallahassee, Florida 32399-2400

Re: Crystal River Facility - Title V Permit 0170004-011-AV - Coal Yard Modification
Air Construction Permit Application

Dear Mr. Koerner:

Attached is an air construction permit application to modify the coal yard at Crystal River. The coal yard modification consists of replacing the existing barge unloading system, consisting of a clamshell on traveling gantry, with a modern hydraulic crane with a clamshell bucket on a traveling gantry. Additionally, we plan to increase the coal capacity of the coal crushers and conveyors conveying coal to units 1 and 2 from 600 TPH to 900 TPH. This will decrease the time required to bunker coal to units 1 and 2 allowing more time for maintenance to this critical conveying system.

Thank you for your help in this matter. Please contact me at (727) 820-5295 if you have any questions.

Sincerely,

Patricia D. West

for Dave Meyer
Senior Environmental Specialist

xc: Mr. Bob Soich (cover letter)

Progress Energy Florida, Inc.
P.O. Box 14042
St. Petersburg, FL 33733

Gibson, Victoria

From: Koerner, Jeff
Sent: Friday, July 14, 2006 3:32 PM
To: Gibson, Victoria; Adams, Patty; Arif, Syed
Cc: Holtom, Jonathan
Subject: Crystal River - AC/AV Application to Increase Coal Unloading/Crushing Capacity

Vickie, Patty, Syed,

We received an application from PEF on July 14th. I assigned this to Jonathan for processing.

Thanks!

Jeff Koerner, BAR - Air Permitting North
Florida Department of Environmental Protection
850/921-9536

Patty,
Jeff probably passed on the one copy
I gave him to Jonathan.
Vickie

AIR CONSTRUCTION PERMIT APPLICATION
COAL YARD MODIFICATION PROJECT
CRYSTAL RIVER ENERGY COMPLEX
CRYSTAL RIVER, CITRUS COUNTY, FLORIDA

Submitted to:

Progress Energy Florida
100 Central Avenue
St. Petersburg, Florida 33701

Submitted by:

Golder Associates Inc.
5100 West Lemon Street
Suite 114
Tampa, Florida 33609

Distribution:

4 Copies	Department of Environmental Protection
2 Copies	Progress Energy Florida
2 Copies	Golder Associates Inc.

July 2006 053-9556

PART I – FDEP APPLICATION FOR AIR PERMIT

PART II – PSD APPLICATION

LIST OF TABLES

LIST OF FIGURES

PART I

FDEP APPLICATION FOR AIR PERMIT

Department of Environmental Protection

Division of Air Resource Management

APPLICATION FOR AIR PERMIT - LONG FORM

I. APPLICATION INFORMATION

Air Construction Permit – Use this form to apply for an air construction permit at a facility operating under a federally enforceable state air operation permit (FESOP) or Title V air permit. Also use this form to apply for an air construction permit:

- For a proposed project subject to prevention of significant deterioration (PSD) review, nonattainment area (NAA) new source review, or maximum achievable control technology (MACT) review; or
- Where the applicant proposes to assume a restriction on the potential emissions of one or more pollutants to escape a federal program requirement such as PSD review, NAA new source review, Title V, or MACT; or
- Where the applicant proposes to establish, revise, or renew a plantwide applicability limit (PAL).

Air Operation Permit – Use this form to apply for:

- An initial federally enforceable state air operation permit (FESOP); or
- An initial/revised/renewal Title V air operation permit.

Air Construction Permit & Title V Air Operation Permit (Concurrent Processing Option) – Use this form to apply for both an air construction permit and a revised or renewal Title V air operation permit incorporating the proposed project.

To ensure accuracy, please see form instructions.

Identification of Facility

1. Facility Owner/Company Name: **PROGRESS ENERGY FLORIDA, INC.**	
2. Site Name: **CRYSTAL RIVER POWER PLANT**	
3. Facility Identification Number: **0170004**	
4. Facility Location...: Street Address or Other Locator: **NORTH OF CRYSTAL RIVER, WEST OF U.S. 19** City: **CRYSTAL RIVER** County: **CITRUS** Zip Code: **34428**	
5. Relocatable Facility? ☐ Yes ☒ No	6. Existing Title V Permitted Facility? ☒ Yes ☐ No

Application Contact

1. Application Contact Name: **DAVE MEYER, SENIOR ENVIRONMENTAL SPECIALIST**
2. Application Contact Mailing Address... Organization/Firm: **PROGRESS ENERGY FLORIDA** Street Address: **100 CENTRAL AVE CX1B** City: **ST. PETERSBURG** State: **FL** Zip Code: **33701**
3. Application Contact Telephone Numbers... Telephone: **(727) 820-5295** ext. Fax: **(727) 820-5229**
4. Application Contact Email Address: **DAVE.MEYER@PGNMAIL.COM**

Application Processing Information (DEP Use)

1. Date of Receipt of Application: 7-14-06	3. PSD Number (if applicable):
2. Project Number(s): 0170004-014-AC	4. Siting Number (if applicable):

0170004-015-AV

APPLICATION INFORMATION

Purpose of Application

This application for air permit is submitted to obtain: (Check one)

Air Construction Permit

Air construction permit.

☐ Air construction permit to establish, revise, or renew a plantwide applicability limit (PAL).

☐ Air construction permit to establish, revise, or renew a plantwide applicability limit (PAL), and separate air construction permit to authorize construction or modification of one or more emissions units covered by the PAL.

Air Operation Permit

☐ Initial Title V air operation permit.

☐ Title V air operation permit revision.

☐ Title V air operation permit renewal.

☐ Initial federally enforceable state air operation permit (FESOP) where professional engineer (PE) certification is required.

☐ Initial federally enforceable state air operation permit (FESOP) where professional engineer (PE) certification is not required.

Air Construction Permit and Revised/Renewal Title V Air Operation Permit (Concurrent Processing)

X Air construction permit and Title V permit revision, incorporating the proposed project.

☐ Air construction permit and Title V permit renewal, incorporating the proposed project.

Note: By checking one of the above two boxes, you, the applicant, are requesting concurrent processing pursuant to Rule 62-213.405, F.A.C. In such case, you must also check the following box:

X I hereby request that the department waive the processing time requirements of the air construction permit to accommodate the processing time frames of the Title V air operation permit.

Application Comment

Progress Energy is proposing to replace the barge unloading system, consisting of a clamshell on traveling gantry, with a modern hydraulic crane with a clamshell bucket on a traveling gantry, increasing the barge unloading rate from 1,500 to 2,500 tons per hour (TPH). In addition, Progress Energy proposes to increase the coal capacity of the coal crushers and conveyors C9, C4, C5, C6, C7, and C8 from 600 TPH to 900 TPH. See Part II.

APPLICATION INFORMATION

Scope of Application

Emissions Unit ID Number	Description of Emissions Unit	Air Permit Type	Air Permit Proc. Fee
016	Material-Handling Activities for Coal Fired Steam Units		NA

Application Processing Fee

Check one: ☐ Attached - Amount: $_____ ☒ Not Applicable

APPLICATION INFORMATION

Owner/Authorized Representative Statement

Complete if applying for an air construction permit or an initial FESOP.

1. Owner/Authorized Representative Name :
   BERNIE M. CUMBIE, MANAGER, CRYSTAL RIVER FOSSIL PLANT & FUEL OPERATIONS
2. Owner/Authorized Representative Mailing Address...
   Organization/Firm: **PROGRESS ENERGY**
   Street Address: **100 CENTRAL AVE CN77**
   City: **ST PETERSBURG** State: **FL** Zip Code: **33701**
3. Owner/Authorized Representative Telephone Numbers...
   Telephone: **(352) 563-4484** ext. Fax: **(352) 563-4496**
4. Owner/Authorized Representative Email Address: **BERNIE.CUMBIE@PGNMAIL.COM**
5. Owner/Authorized Representative Statement:

   I, the undersigned, am the owner or authorized representative of the facility addressed in this air permit application. I hereby certify, based on information and belief formed after reasonable inquiry, that the statements made in this application are true, accurate and complete and that, to the best of my knowledge, any estimates of emissions reported in this application are based upon reasonable techniques for calculating emissions. The air pollutant emissions units and air pollution control equipment described in this application will be operated and maintained so as to comply with all applicable standards for control of air pollutant emissions found in the statutes of the State of Florida and rules of the Department of Environmental Protection and revisions thereof and all other requirements identified in this application to which the facility is subject. I understand that a permit, if granted by the department, cannot be transferred without authorization from the department, and I will promptly notify the department upon sale or legal transfer of the facility or any permitted emissions unit.

Bernie M Cumbie — Signature

6/30/06 — Date

APPLICATION INFORMATION

Application Responsible Official Certification

Complete if applying for an initial/revised/renewal Title V permit or concurrent processing of an air construction permit and a revised/renewal Title V permit. If there are multiple responsible officials, the "application responsible official" need not be the "primary responsible official."

1. Application Responsible Official Name:

2. Application Responsible Official Qualification (Check one or more of the following options, as applicable):
   - ☐ For a corporation, the president, secretary, treasurer, or vice-president of the corporation in charge of a principal business function, or any other person who performs similar policy or decision-making functions for the corporation, or a duly authorized representative of such person if the representative is responsible for the overall operation of one or more manufacturing, production, or operating facilities applying for or subject to a permit under Chapter 62-213, F.A.C.
   - ☐ For a partnership or sole proprietorship, a general partner or the proprietor, respectively.
   - ☐ For a municipality, county, state, federal, or other public agency, either a principal executive officer or ranking elected official.
   - ☐ The designated representative at an Acid Rain source.

3. Application Responsible Official Mailing Address...
   Organization/Firm:
   Street Address:
   City: State: Zip Code:

4. Application Responsible Official Telephone Numbers...
   Telephone: ( ) - ext. Fax: ( ) -

5. Application Responsible Official Email Address:

6. Application Responsible Official Certification:

   I, the undersigned, am a responsible official of the Title V source addressed in this air permit application. I hereby certify, based on information and belief formed after reasonable inquiry, that the statements made in this application are true, accurate and complete and that, to the best of my knowledge, any estimates of emissions reported in this application are based upon reasonable techniques for calculating emissions. The air pollutant emissions units and air pollution control equipment described in this application will be operated and maintained so as to comply with all applicable standards for control of air pollutant emissions found in the statutes of the State of Florida and rules of the Department of Environmental Protection and revisions thereof and all other applicable requirements identified in this application to which the Title V source is subject. I understand that a permit, if granted by the department, cannot be transferred without authorization from the department, and I will promptly notify the department upon sale or legal transfer of the facility or any permitted emissions unit. Finally, I certify that the facility and each emissions unit are in compliance with all applicable requirements to which they are subject, except as identified in compliance plan(s) submitted with this application.

   _____ _____
   Signature Date

APPLICATION INFORMATION

Professional Engineer Certification

1. Professional Engineer Name: **SCOTT OSBOURN**
   Registration Number: **57557**
2. Professional Engineer Mailing Address...
   Organization/Firm: **Golder Associates Inc.****
   Street Address: **5100 West Lemon St., Suite 114**
   City: **Tampa** State: **FL** Zip Code: **33609**
3. Professional Engineer Telephone Numbers...
   Telephone: **(813) 287-1717** ext.**211** Fax: **(813) 287-1716**
4. Professional Engineer Email Address: **SOSBOURN@GOLDER.COM**
5. Professional Engineer Statement:

I, the undersigned, hereby certify, except as particularly noted herein, that:*

(1) To the best of my knowledge, there is reasonable assurance that the air pollutant emissions unit(s) and the air pollution control equipment described in this application for air permit, when properly operated and maintained, will comply with all applicable standards for control of air pollutant emissions found in the Florida Statutes and rules of the Department of Environmental Protection; and

(2) To the best of my knowledge, any emission estimates reported or relied on in this application are true, accurate, and complete and are either based upon reasonable techniques available for calculating emissions or, for emission estimates of hazardous air pollutants not regulated for an emissions unit addressed in this application, based solely upon the materials, information and calculations submitted with this application.

(3) If the purpose of this application is to obtain a Title V air operation permit (check here ☐, if so), I further certify that each emissions unit described in this application for air permit, when properly operated and maintained, will comply with the applicable requirements identified in this application to which the unit is subject, except those emissions units for which a compliance plan and schedule is submitted with this application.

(4) If the purpose of this application is to obtain an air construction permit (check here ☒, if so) or concurrently process and obtain an air construction permit and a Title V air operation permit revision or renewal for one or more proposed new or modified emissions units (check here ☐, if so), I further certify that the engineering features of each such emissions unit described in this application have been designed or examined by me or individuals under my direct supervision and found to be in conformity with sound engineering principles applicable to the control of emissions of the air pollutants characterized in this application.

(5) If the purpose of this application is to obtain an initial air operation permit or operation permit revision or renewal for one or more newly constructed or modified emissions units (check here ☐, if so), I further certify that, with the exception of any changes detailed as part of this application, each such emissions unit has been constructed or modified in substantial accordance with the information given in the corresponding application for air construction permit and with all provisions contained in such permit.

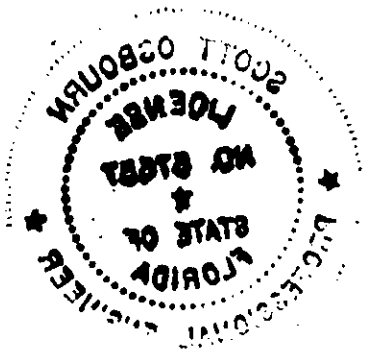
Signature

6/28/06*
Date

(seal)

SCOTT OSBOURN LICENSE NO. 57557 STATE OF FLORIDA PROFESSIONAL ENGINEER

* Attach any exception to certification statement.
** **Board of Professional Engineers Certificate of Authorization #00001670**


SCOTT OSBOURN
LICENSE
NO. 67687
STATE OF
FLORIDA
PROFESSIONAL ENGINEER

II. FACILITY INFORMATION

A. GENERAL FACILITY INFORMATION

Facility Location and Type

1. Facility UTM Coordinates... Zone **17** East (km) **334.3** North (km) **3204.5**		2. Facility Latitude/Longitude... Latitude (DD/MM/SS) **28/57/34** Longitude (DD/MM/SS) **82/42/01**	
3. Governmental Facility Code: **0**	4. Facility Status Code: **A**	5. Facility Major Group SIC Code: **49**	6. Facility SIC(s):
7. Facility Comment :			

Facility Contact

1. Facility Contact Name: **DAVE MEYER, SENIOR ENVIRONMENTAL SPECIALIST**
2. Facility Contact Mailing Address... Organization/Firm: **PROGRESS ENERGY** Street Address: **100 CENTRAL AVE CX1B** City: **ST PETERSBURG** State: **FL** Zip Code: **33701**
3. Facility Contact Telephone Numbers: Telephone: **(727) 820-5295** ext. Fax: **(727) 820-5229**
4. Facility Contact Email Address: **DAVE.MEYER@PGNMAIL.COM**

Facility Primary Responsible Official

Complete if an "application responsible official" is identified in Section I. that is not the facility "primary responsible official."

1. Facility Primary Responsible Official Name:
2. Facility Primary Responsible Official Mailing Address... Organization/Firm: Street Address: City: State: Zip Code:
3. Facility Primary Responsible Official Telephone Numbers... Telephone: ( ) - ext. Fax: ( ) -
4. Facility Primary Responsible Official Email Address:

FACILITY INFORMATION

Facility Regulatory Classifications

Check all that would apply *following* completion of all projects and implementation of all other changes proposed in this application for air permit. Refer to instructions to distinguish between a "major source" and a "synthetic minor source."

1. ☐ Small Business Stationary Source	☐ Unknown
2. ☐ Synthetic Non-Title V Source	
3. ☒ Title V Source	
4. ☒ Major Source of Air Pollutants, Other than Hazardous Air Pollutants (HAPs)	
5. ☐ Synthetic Minor Source of Air Pollutants, Other than HAPs	
6. ☒ Major Source of Hazardous Air Pollutants (HAPs)	
7. ☐ Synthetic Minor Source of HAPs	
8. ☒ One or More Emissions Units Subject to NSPS (40 CFR Part 60)	
9. ☐ One or More Emissions Units Subject to Emission Guidelines (40 CFR Part 60)	
10. ☐ One or More Emissions Units Subject to NESHAP (40 CFR Part 61 or Part 63)	
11. ☐ Title V Source Solely by EPA Designation (40 CFR 70.3(a)(5))	
12. Facility Regulatory Classifications Comment:	

FACILITY INFORMATION

List of Pollutants Emitted by Facility

1. Pollutant Emitted	2. Pollutant Classification	3. Emissions Cap [Y or N]?
CO	A	N
NOx	A	N
PB	A	N
PM	A	N
PM10	A	N
SO2	A	N
VOC	A	N

B. EMISSIONS CAPS

Facility-Wide or Multi-Unit Emissions Caps

1. Pollutant Subject to Emissions Cap	2. Facility Wide Cap [Y or N]? (all units)	3. Emissions Unit ID No.s Under Cap (if not all units)	4. Hourly Cap (lb/hr)	5. Annual Cap (ton/yr)	6. Basis for Emissions Cap

7. Facility-Wide or Multi-Unit Emissions Cap Comment:

C. FACILITY ADDITIONAL INFORMATION

Additional Requirements for All Applications, Except as Otherwise Stated

1. Facility Plot Plan: (Required for all permit applications, except Title V air operation permit revision applications if this information was submitted to the department within the previous five years and would not be altered as a result of the revision being sought) ☐ Attached, Document ID:_ ☒ Previously Submitted, Date:____
2. Process Flow Diagram(s): (Required for all permit applications, except Title V air operation permit revision applications if this information was submitted to the department within the previous five years and would not be altered as a result of the revision being sought) ☐ Attached, Document ID:____ ☒ Previously Submitted, Date:____
3. Precautions to Prevent Emissions of Unconfined Particulate Matter: (Required for all permit applications, except Title V air operation permit revision applications if this information was submitted to the department within the previous five years and would not be altered as a result of the revision being sought) ☐ Attached, Document ID:____ ☒ Previously Submitted, Date:____

Additional Requirements for Air Construction Permit Applications

1. Area Map Showing Facility Location: ☐ Attached, Document ID:____ ☒ Not Applicable (existing permitted facility)
2. Description of Proposed Construction, Modification, or Plantwide Applicability Limit (PAL): ☒ Attached, Document ID:**PART II**
3. Rule Applicability Analysis: ☒ Attached, Document ID:**PART II**
4. List of Exempt Emissions Units (Rule 62-210.300(3), F.A.C.): ☐ Attached, Document ID:____ ☒ Not Applicable (no exempt units at facility)
5. Fugitive Emissions Identification: ☒ Attached, Document ID:**PART II** ☐ Not Applicable
6. Air Quality Analysis (Rule 62-212.400(7), F.A.C.): ☐ Attached, Document ID:____ ☒ Not Applicable
7. Source Impact Analysis (Rule 62-212.400(5), F.A.C.): ☐ Attached, Document ID:____ ☒ Not Applicable
8. Air Quality Impact since 1977 (Rule 62-212.400(4)(e), F.A.C.): ☐ Attached, Document ID:____ ☒ Not Applicable
9. Additional Impact Analyses (Rules 62-212.400(8) and 62-212.500(4)(e), F.A.C.): ☐ Attached, Document ID:____ ☒ Not Applicable
10. Alternative Analysis Requirement (Rule 62-212.500(4)(g), F.A.C.): ☐ Attached, Document ID:____ ☒ Not Applicable

FACILITY INFORMATION

Additional Requirements for FESOP Applications

1. List of Exempt Emissions Units (Rule 62-210.300(3)(a) or (b)1., F.A.C.):
   ☐ Attached, Document ID:____ ☐ Not Applicable (no exempt units at facility)

Additional Requirements for Title V Air Operation Permit Applications

1. List of Insignificant Activities (Required for initial/renewal applications only):
   ☐ Attached, Document ID:____ ☐ Not Applicable (revision application)

2. Identification of Applicable Requirements (Required for initial/renewal applications, and for revision applications if this information would be changed as a result of the revision being sought):
   ☐ Attached, Document ID:____
   ☐ Not Applicable (revision application with no change in applicable requirements)

3. Compliance Report and Plan (Required for all initial/revision/renewal applications):
   ☐ Attached, Document ID:____
   Note: A compliance plan must be submitted for each emissions unit that is not in compliance with all applicable requirements at the time of application and/or at any time during application processing. The department must be notified of any changes in compliance status during application processing.

4. List of Equipment/Activities Regulated under Title VI (If applicable, required for initial/renewal applications only):
   ☐ Attached, Document ID:____
   ☐ Equipment/Activities On site but Not Required to be Individually Listed
   ☐ Not Applicable

5. Verification of Risk Management Plan Submission to EPA (If applicable, required for initial/renewal applications only) :
   ☐ Attached, Document ID:____ ☐ Not Applicable

6. Requested Changes to Current Title V Air Operation Permit:
   ☐ Attached, Document ID:____ ☐ Not Applicable

Additional Requirements Comment

III. EMISSIONS UNIT INFORMATION

Title V Air Operation Permit Application - For Title V air operation permitting only, emissions units are classified as regulated, unregulated, or insignificant. If this is an application for Title V air operation permit, a separate Emissions Unit Information Section (including subsections A through I as required) must be completed for each regulated and unregulated emissions unit addressed in this application for air permit. Some of the subsections comprising the Emissions Unit Information Section of the form are optional for unregulated emissions units. Each such subsection is appropriately marked. Insignificant emissions units are required to be listed at Section II, Subsection C.

Air Construction Permit or FESOP Application - For air construction permitting or federally enforceable state air operation permitting, emissions units are classified as either subject to air permitting or exempt from air permitting. The concept of an "unregulated emissions unit" does not apply. If this is an application for air construction permit or FESOP, a separate Emissions Unit Information Section (including subsections A through I as required) must be completed for each emissions unit subject to air permitting addressed in this application for air permit. Emissions units exempt from air permitting are required to be listed at Section II, Subsection C.

Air Construction Permit and Revised/Renewal Title V Air Operation Permit Application – Where this application is used to apply for both an air construction permit and a revised/renewal Title V air operation permit, each emissions unit is classified as either subject to air permitting or exempt from air permitting for air construction permitting purposes and as regulated, unregulated, or insignificant for Title V air operation permitting purposes. **The air construction permitting classification must be used to complete the Emissions Unit Information Section of this application for air permit.** A separate Emissions Unit Information Section (including subsections A through I as required) must be completed for each emissions unit subject to air permitting addressed in this application for air permit. Emissions units exempt from air construction permitting and insignificant emissions units are required to be listed at Section II, Subsection C.

If submitting the application form in hard copy, the number of this Emissions Unit Information Section and the total number of Emissions Unit Information Sections submitted as part of this application must be indicated in the space provided at the top of each page.

EMISSIONS UNIT INFORMATION
Section [1]
MATERIAL-HANDLING ACTIVITIES

A. GENERAL EMISSIONS UNIT INFORMATION

Title V Air Operation Permit Emissions Unit Classification

1. Regulated or Unregulated Emissions Unit? (Check one, if applying for an initial, revised or renewal Title V air operation permit. Skip this item if applying for an air construction permit or FESOP only.)

   ☒ The emissions unit addressed in this Emissions Unit Information Section is a regulated emissions unit.

   ☐ The emissions unit addressed in this Emissions Unit Information Section is an unregulated emissions unit.

Emissions Unit Description and Status

1. Type of Emissions Unit Addressed in this Section: (Check one)

   ☐ This Emissions Unit Information Section addresses, as a single emissions unit, a single process or production unit, or activity, which produces one or more air pollutants and which has at least one definable emission point (stack or vent).

   ☐ This Emissions Unit Information Section addresses, as a single emissions unit, a group of process or production units and activities which has at least one definable emission point (stack or vent) but may also produce fugitive emissions.

   ☒ This Emissions Unit Information Section addresses, as a single emissions unit, one or more process or production units and activities which produce fugitive emissions only.

2. Description of Emissions Unit Addressed in this Section: **Material-handling activities for coal-fired steam units.**

3. Emissions Unit Identification Number: **EU016**

4. Emissions Unit Status Code:	5. Commence Construction Date:	6. Initial Startup Date:	7. Emissions Unit Major Group SIC Code:	8. Acid Rain Unit?
A	**8/15/06**		**49**	☐ Yes ☒ No

9. Package Unit:
   Manufacturer: Model Number:

10. Generator Nameplate Rating: MW

11. Emissions Unit Comment: **This emission unit consists of transport and storage of coal, flyash, and bottom ash for FFSG Units 1, 2, 4, and 5.**

EMISSIONS UNIT INFORMATION
Section [1]
MATERIAL-HANDLING ACTIVITIES

Emissions Unit Control Equipment

1. Control Equipment/Method(s) Description:
   Dust suppression by water sprays
   Miscellaneous control devices - enclosures
   Dust suppression - traffic control

   (Refer to Condition H.3 of the current TV Permit No. 0170004-009-AV, which references Progress Energy's Best Management Plan (BMP) for particulate emissions)

2. Control Device or Method Code(s): **061**

B. EMISSIONS UNIT CAPACITY INFORMATION

(Optional for unregulated emissions units.)

Emissions Unit Operating Capacity and Schedule

1. Maximum Process or Throughput Rate: **3,118,925 TPY coal for Units 1 and 2.**	
2. Maximum Production Rate:	
3. Maximum Heat Input Rate: million Btu/hr	
4. Maximum Incineration Rate: pounds/hr tons/day	
5. Requested Maximum Operating Schedule: **24**hours/day **52**weeks/year	**7**days/week **8760**hours/year
6. Operating Capacity/Schedule Comment: **5,076,991 TPY coal for Units 4 and 5. 8,195,916 TPY for all units combined. Maximum process throughput rate is based on boiler maximum firing rate and lower range of the coal heating value.**	

C. EMISSION POINT (STACK/VENT) INFORMATION
(Optional for unregulated emissions units.)

Emission Point Description and Type

1. Identification of Point on Plot Plan or Flow Diagram: **Various - 016**	2. Emission Point Type Code: **4**	
3. Descriptions of Emission Points Comprising this Emissions Unit for VE Tracking: **Barge unloading, rail unloading, coal crushing, various conveyors and transfer points, storage piles and manipulation activities, storage silos, and unpaved road emissions from coal yard equipment.**		
4. ID Numbers or Descriptions of Emission Units with this Emission Point in Common:		
5. Discharge Type Code: **F**	6. Stack Height: feet	7. Exit Diameter: feet
8. Exit Temperature: **77°F**	9. Actual Volumetric Flow Rate: acfm	10. Water Vapor: %
11. Maximum Dry Standard Flow Rate: dscfm	12. Nonstack Emission Point Height: **Various** feet	
13. Emission Point UTM Coordinates... Zone: East (km): North (km):	14. Emission Point Latitude/Longitude... Latitude (DD/MM/SS) Longitude (DD/MM/SS)	
15. Emission Point Comment: **Fugitive emissions at ambient temperature.**		

D. SEGMENT (PROCESS/FUEL) INFORMATION

Segment Description and Rate: Segment 1 of 2

1. Segment Description (Process/Fuel Type): **Coal Transport for Units 1 and 2.**		
2. Source Classification Code (SCC):	3. SCC Units: **Tons Transferred**	
4. Maximum Hourly Rate: **900**	5. Maximum Annual Rate: **3,118,925**	6. Estimated Annual Activity Factor:
7. Maximum % Sulfur:	8. Maximum % Ash:	9. Million Btu per SCC Unit:
10. Segment Comment: **Propose to increase coal capacity of coal crushers and conveyors (conveyors C9, C4, C5, C6, C7, and C8) from 600 TPH to 900 TPH. These conveyors transport coal from the reclaim hopper to Boiler Units 1 and 2 silos. Maximum annual rate based on maximum firing rate of Units 1 and 2.**		

Segment Description and Rate: Segment 2 of 2

1. Segment Description (Process/Fuel Type): **Coal Transport for Units 4 and 5**		
2. Source Classification Code (SCC):	3. SCC Units: **Tons Transferred**	
4. Maximum Hourly Rate: **2,500**	5. Maximum Annual Rate: 5,076,991	6. Estimated Annual Activity Factor:
7. Maximum % Sulfur:	8. Maximum % Ash:	9. Million Btu per SCC Unit:
10. Segment Comment: **Propose to increase barge unloading from 1,500 TPH to 2,500 TPH. Conveyors from barge to Boilers Units 4 and 5 are already rated for a capacity of 2,500 TPH, therefore no changes to these conveyors are needed. Maximum annual rate based on maximum firing rate of Units 4 and 5.**		

E. EMISSIONS UNIT POLLUTANTS

List of Pollutants Emitted by Emissions Unit

1. Pollutant Emitted	2. Primary Control Device Code	3. Secondary Control Device Code	4. Pollutant Regulatory Code
PM	061		WP
PM10	061		WP

F1. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION – POTENTIAL/ESTIMATED FUGITIVE EMISSIONS

(Optional for unregulated emissions units.)

Potential/Estimated Fugitive Emissions

Complete for each pollutant identified in Subsection E if applying for an air construction permit or concurrent processing of an air construction permit and a revised or renewal Title V permit. Complete for each emissions-limited pollutant identified in Subsection E if applying for an air operation permit.

1. Pollutant Emitted: **PM**	2. Total Percent Efficiency of Control:
3. Potential Emissions: **14.7**lb/hour **43**tons/year	4. Synthetically Limited? ☐ Yes ☒ No
5. Range of Estimated Fugitive Emissions (as applicable): to tons/year	
6. Emission Factor: **See Part II** Reference:	7. Emissions Method Code: **3**
8.a. Baseline Actual Emissions (if required): **26.6** tons/year	8.b. Baseline 24-month Period: From: To:
9.a. Projected Actual Emissions (if required): tons/year	9.b. Projected Monitoring Period: ☐ 5 years ☐ 10 years
10. Calculation of Emissions: **See Tables 1 through 3 of Part II. Hourly rate is based on the daily rate and 24 hr/day assumed operation.**	
11. Potential Fugitive and Actual Emissions Comment: **PSD applicability is based on past actual vs. future potential.**	

F1. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION – POTENTIAL/ESTIMATED FUGITIVE EMISSIONS

(Optional for unregulated emissions units.)

Potential/Estimated Fugitive Emissions

Complete for each pollutant identified in Subsection E if applying for an air construction permit or concurrent processing of an air construction permit and a revised or renewal Title V permit. Complete for each emissions-limited pollutant identified in Subsection E if applying for an air operation permit.

1. Pollutant Emitted: **PM10**	2. Total Percent Efficiency of Control:
3. Potential Emissions: **5.81** lb/hour **15.3** tons/year	4. Synthetically Limited? ☐ Yes ☒ No
5. Range of Estimated Fugitive Emissions (as applicable): to tons/year	
6. Emission Factor: **See Part II** Reference:	7. Emissions Method Code: **3**
8.a. Baseline Actual Emissions (if required): **9.64** tons/year	8.b. Baseline 24-month Period: From: To:
9.a. Projected Actual Emissions (if required): tons/year	9.b. Projected Monitoring Period: ☐ 5 years ☐ 10 years
10. Calculation of Emissions: **See Tables 1 through 3 of Part II. Hourly rate is based on daily rate and 24 hr/day assumed operation.**	
11. Potential Fugitive and Actual Emissions Comment: **PSD applicabitlity is based on past actual vs. future potential.**	

G. VISIBLE EMISSIONS INFORMATION

Complete if this emissions unit is or would be subject to a unit-specific visible emissions limitation.

Visible Emissions Limitation: Visible Emissions Limitation **1** of **1**

1. Visible Emissions Subtype: **VE20**	2. Basis for Allowable Opacity: ☒ Rule ☐ Other
3. Allowable Opacity: Normal Conditions: **20** % Exceptional Conditions: % Maximum Period of Excess Opacity Allowed: min/hour	
4. Method of Compliance: **EPA Method 9**	
5. Visible Emissions Comment:	

Visible Emissions Limitation: Visible Emissions Limitation _____ of _____

1. Visible Emissions Subtype:	2. Basis for Allowable Opacity: ☐ Rule ☐ Other
3. Allowable Opacity: Normal Conditions: % Exceptional Conditions: % Maximum Period of Excess Opacity Allowed: min/hour	
4. Method of Compliance:	
5. Visible Emissions Comment:	

I. EMISSIONS UNIT ADDITIONAL INFORMATION

Additional Requirements for All Applications, Except as Otherwise Stated

1. Process Flow Diagram (Required for all permit applications, except Title V air operation permit revision applications if this information was submitted to the department within the previous five years and would not be altered as a result of the revision being sought)
   ☒ Attached, Document ID: **Drawing 11127** ☐ Previously Submitted, Date _____

2. Fuel Analysis or Specification (Required for all permit applications, except Title V air operation permit revision applications if this information was submitted to the department within the previous five years and would not be altered as a result of the revision being sought)
   ☐ Attached, Document ID: _____ ☐ Previously Submitted, Date _____

3. Detailed Description of Control Equipment (Required for all permit applications, except Title V air operation permit revision applications if this information was submitted to the department within the previous five years and would not be altered as a result of the revision being sought)
   ☐ Attached, Document ID: _____ ☒ Previously Submitted, Date _____

4. Procedures for Startup and Shutdown (Required for all operation permit applications, except Title V air operation permit revision applications if this information was submitted to the department within the previous five years and would not be altered as a result of the revision being sought)
   ☐ Attached, Document ID: _____ ☐ Previously Submitted, Date _____
   ☒ Not Applicable (construction application)

5. Operation and Maintenance Plan (Required for all permit applications, except Title V air operation permit revision applications if this information was submitted to the department within the previous five years and would not be altered as a result of the revision being sought)
   ☐ Attached, Document ID: _____ ☐ Previously Submitted, Date _____
   ☒ Not Applicable

6. Compliance Demonstration Reports/Records
   ☐ Attached, Document ID: _____
   Test Date(s)/Pollutant(s) Tested: _____
   ☐ Previously Submitted, Date: _____
   Test Date(s)/Pollutant(s) Tested: _____
   ☐ To be Submitted, Date (if known): _____
   Test Date(s)/Pollutant(s) Tested: _____
   ☒ Not Applicable
   Note: For FESOP applications, all required compliance demonstration records/reports must be submitted at the time of application. For Title V air operation permit applications, all required compliance demonstration reports/records must be submitted at the time of application, or a compliance plan must be submitted at the time of application.

7. Other Information Required by Rule or Statute
   ☐ Attached, Document ID: _____ ☒ Not Applicable

EMISSIONS UNIT INFORMATION
Section [1]
MATERIAL-HANDLING ACTIVITIES

Additional Requirements for Air Construction Permit Applications

1. Control Technology Review and Analysis (Rules 62-212.400(10) and 62-212.500(7), F.A.C.; 40 CFR 63.43(d) and (e))
   ☐ Attached, Document ID: _____ ☒ Not Applicable
2. Good Engineering Practice Stack Height Analysis (Rule 62-212.400(4)(d), F.A.C., and Rule 62-212.500(4)(f), F.A.C.)
   ☐ Attached, Document ID: _____ ☒ Not Applicable
3. Description of Stack Sampling Facilities (Required for proposed new stack sampling facilities only)
   ☐ Attached, Document ID: _____ ☒ Not Applicable

Additional Requirements for Title V Air Operation Permit Applications

1. Identification of Applicable Requirements
   ☐ Attached, Document ID: _____ ☐ Not Applicable
2. Compliance Assurance Monitoring
   ☐ Attached, Document ID: _____ ☐ Not Applicable
3. Alternative Methods of Operation
   ☐ Attached, Document ID: _____ ☐ Not Applicable
4. Alternative Modes of Operation (Emissions Trading)
   ☐ Attached, Document ID: _____ ☐ Not Applicable
5. Acid Rain Part Application
   ☐ Certificate of Representation (EPA Form No. 7610-1)
      ☐ Copy Attached, Document ID: _____
   ☐ Acid Rain Part (Form No. 62-210.900(1)(a))
      ☐ Attached, Document ID: _____
      ☐ Previously Submitted, Date: _____
   ☐ Repowering Extension Plan (Form No. 62-210.900(1)(a)1.)
      ☐ Attached, Document ID: _____
      ☐ Previously Submitted, Date: _____
   ☐ New Unit Exemption (Form No. 62-210.900(1)(a)2.)
      ☐ Attached, Document ID: _____
      ☐ Previously Submitted, Date: _____
   ☐ Retired Unit Exemption (Form No. 62-210.900(1)(a)3.)
      ☐ Attached, Document ID: _____
      ☐ Previously Submitted, Date: _____
   ☐ Phase II NOx Compliance Plan (Form No. 62-210.900(1)(a)4.)
      ☐ Attached, Document ID: _____
      ☐ Previously Submitted, Date: _____
   ☐ Phase II NOx Averaging Plan (Form No. 62-210.900(1)(a)5.)
      ☐ Attached, Document ID: _____
      ☐ Previously Submitted, Date: _____
   ☐ Not Applicable

Additional Requirements Comment

PART II

PSD APPLICATION FOR THE PROPOSED COAL YARD MODIFICATIONS PROGRESS ENERGY'S CRYSTAL RIVER ENERGY COMPLEX.

1.0 EXISTING FACILITY DESCRIPTION

Crystal River Energy Complex consists of four coal-fired fossil fuel steam generating (FFSG) units with electrostatic precipitators; two natural draft cooling towers for FFSG Units 4 and 5; helper mechanical cooling towers for FFSG Units 1, 2 and Nuclear Unit 3; coal, fly ash, and bottom ash handling facilities, and relocatable diesel fired generator(s).

The facility also includes miscellaneous unregulated/insignificant emissions units and/or activities. A summary of the emission units is as follows:

E.U. ID No.	Brief Description
001	Fossil Fuel Steam Generator (FFSG), Unit 1
002	FFSG, Unit 2
004	FFSG, Unit 4
003	FFSG, Unit 5
006	Fly ash transfer (Source 1) from FFSG Unit 1
008	Fly ash storage silo (Source 3) for FFSG Units 1 and 2
009	Fly ash transfer (Source 4) from FFSG Unit 2
010	Fly ash transfer (Source 5) from FFSG Unit 2
014	Bottom ash storage silo for FFSG Units 1 and 2, with associated vacuum blower exhausts and bin vent filter (total of three emission points)
7775047, 001	Relocatable diesel generator(s) will have a maximum (combined) heat input of 25.74 MMBtu/hour while being fueled by 186.3 gallons of new No. 2 fuel oil per hour with a maximum (combined) rating of 2460 kilowatts.
013	Cooling towers for FFSG Units 1, 2, and 3, used to reduce plant discharge water temperature
015	Cooling towers for FFSG Units 4 and 5 used to reduce plant discharge water temperature
016	Material handling activities for coal-fired steam units

Unregulated Emissions Units and/or Activities	
017	Fuel and lube oil tanks and vents
018	Sewage treatment, water treatment, lime storage
019	Three 3500 kW diesel generators associated with Unit 3

Insignificant Emission Units
1. Vehicle diesel and gasoline tanks.
2. Diesel fire pump and tank at Unit 1.
3. Diesel fire pump and tank at Unit 3 (FWP-7)
4. Diesel pump driver for emergency feedwater (1,670 BHP)
5. Diesel generator for security bldg and system (backup)
6. 260 kW emergency diesel generator at Unit 3 technical support center.
7. Unit 3 diesel generator air compressor.
8. Unit 3 halon fire protection system.
9. Fire pump house emergency diesel generator units and electric generator units.
10. Laboratory facilities
11. CEM equipment and calibration gas storage and venting.
12. Surface coating of less than 6.0 gallons per day.
13. Brazing, soldering and welding.
14. Grounds maintenance.
15. Miscellaneous gas and diesel engines.
16. Miscellaneous material handling facilities.
17. Parts washers.
18. Miscellaneous material cleaning equipment (e.g., self contained and sand blasting).

2.0 PROPOSED PROJECT

Progress Energy proposes to make modifications to Emission Unit (EU) 016. This emission unit designation represents material handling activities for the coal-fired steam units, including the storage and transport of coal, fly ash and bottom ash handling for fossil fuel steam generator (FFSG) Units 1, 2, 4 and 5, not addressed by other emissions units. This proposed project only affects the coal handling and storage activities associated with EU 016. A description of the existing activities and the proposed modifications follows.

Coal is brought into the facility by barge and rail car. Coal is conveyed from both barge and rail to storage and to the boilers via various conveyors and crusher stations. Once received at the boilers, coal is stored in silos. The current coal conveyor system is shown in Drawing No. 11127-2-009.

The proposed modifications include the following:

- Replace the barge unloading system, consisting of a clamshell on traveling gantry, with a modern hydraulic crane with a clamshell bucket on a traveling gantry (see Drawing No. 11127-2-009). This modification will increase the speed of unloading coal barges. The current system is rated at approximately 1,500 TPH and 16,000 TPD. The modification will increase this rate to a nominal 2,500 TPH and 32,000 TPD. The annual coal usage and plant bunkering is based on the capacity of the boilers and these proposed changes will not change the operation of the boilers and as such will not increase the average annual coal unloading. There may be some variation in coal shipments (up or down) due to on site inventory adjustments.

- Increase the coal capacity of the coal crushers and conveyors C9, C4, C5, C6, C7, and C8 from 600 TPH to 900 TPH. This will decrease the time required to fill the existing Unit Nos. 1 and 2 coal silos but will not affect the existing boiler operating parameters.

The potential to emit is based on the maximum potential coal utilization for the coal-fired units (Units 1, 2, 4 and 5) and the lower range of the coal heating value. As a comparison, the PM emissions are based on 8.2 million tons of coal per year (i.e., 3.1 million tons for Units 1 and 2 and 5.1 million tons for Units 4 and 5), while the maximum potential capability at 1,500 TPH is 13.14 million TPY and at 2,500 TPH is 21.9 million TPY. Indeed, the conveyor system rate change will primarily allow the transfer of coal from the barge to the storage area at a faster rate and will not significantly increase the annual rate, as this is limited by the utilization of the coal-fired units (the boiler heat input and the heating value of the coal).

3.0 EMISSIONS

Emissions from the proposed modifications are particulate matter (PM) and PM_{10}. All conveyors are enclosed and are assumed to result in negligible fugitive emissions. Fugitive PM/PM_{10} emissions occur during drop operations from conveyor to conveyor and from conveyor to pile. A summary of the drop operations associated with the coal handling system is provided in Table 1. A summary of the past actual and future potential emissions is provided in Table 2. Table 3 presents a summary of coal yard vehicle traffic emissions. The net PM/PM_{10} emission changes associated with the proposed modifications are as follows:

	Past Actual Coal Yard Drop Operations (TPY)	**Past Actual Traffic (TPY)**	**Future Potential Coal Yard Operations (TPY)**	**Future Traffic (TPY)**	**Net Change (TPY)**	**PSD Threshold (TPY)**
PM	12.38	14.2	16.9	26.2	16.5	25
PM_{10}	5.94	3.7	8.1	7.2	5.7	15

4.0 RULE APPLICABILITY

The facility is currently permitted under Title V Permit No. 0170004-009-AV. The facility is a major source of hazardous air pollutants (HAPs).

Emission Unit 016 is regulated partially under Power Plant Siting Certification PA 77-09; NSPS 40 CFR 60 Subpart Y (Units 4 and 5 only); and PSD permit AC 09-162037, PSD-FL-139.

5.0 PSD REVIEW

Under Federal and State of Florida PSD review requirements, all major new or modified sources of air pollutants regulated under the Clean Air Act (CAA) must be reviewed and a pre-construction permit issued. EPA has approved Florida's State Implementation Plan (SIP), which contains PSD regulations; therefore, PSD approval authority has been granted to the FDEP.

A "major facility" is defined as any one of 28 named source categories that have the potential to emit 100 TPY or more, or any other stationary facility that has the potential to emit 250 TPY or more of any pollutant regulated under the CAA. "Potential to emit" means the capability, at maximum design capacity, to emit a pollutant after the application of control equipment. Once a new source is determined to be a "major facility" for a particular pollutant, any pollutant emitted in amounts greater than the PSD significant emission rates is subject to PSD review. For an existing source for which a modification is proposed, the modification is subject to PSD review if the net increase in emissions due to the modification is greater than the PSD significant emission rates.

As demonstrated in the above table, the maximum annual emissions increase due to the proposed modifications will not exceed the respective PSD significant emission rate for PM/PM_{10}. Therefore, PSD review is not applicable to the project.

TABLES

Table 1. Coal Yard Drop Operations

Segment	ID	Description	Drop	
A				
Barge to Units 1 & 2				
			Drops	
	B-1	Clamshell to hopper	1	open
	B-2	Hopper to belt	2	
	B-3	Belt to C1	3	
	TP1-1	C1 to C2	4	
	TP3	C2 to C4A/B	5	
	C building	C4A/B to surge bin	6	
	C building	Surge bin to feeder		
	C building	Feeder to crusher		
	C building	Crusher to C5 A/B	7	crusher
	Plant	C5 to surge hopper	8	
	Plant	Surge hopper to C7	9	
	Plant	C7 to C8	10	
	Plant	C8 to Silo	11	
B				
Barge to ground (SR) to Units 1 & 2				
	B-1	Clamshell to hopper	1	open
	B-2	Hopper to belt	2	
	B-3	Belt to C1	3	
	TP1-1	C1 to C2	4	
	TP3	C2 to C3	5	
	SR	C3 to SR1	6	
	SR	SR1 to SR2	7	
	SR	SR2 to coal pile	8	open
	SR	Bucket wheel to SR2	9	open
	SR	Belt to belt	10	
	SR	Belt to C3	11	
	TP3	C3 to C4A/B	12	
	C building	C4A/B to surge bin	13	
	C building	Surge bin to feeder		
	C building	Feeder to crusher		
	C building	Crusher to C5 A/B	14	crusher
	Plant	C5 to surge hopper	15	
	Plant	Surge hopper to C7	16	
	Plant	C7 to C8	17	
	Plant	C8 to Silo	18	
C				
Barge to Units 4 & 5				
	New Source	Description		
	B-1	Clamshell to hopper	1	open
	B-2	Hopper to belt	2	
	B-3	Belt to C1	3	
	TP1-1	C1 to C2	4	
	TP3	C2 to C29A	5	
	TP 24-1	C29A TO C30A	6	
	TP25-1	C30A TO C31B	7	
	TP26-1	C31B TO C33A	8	
	TP27-1	C33A TO C35A/B	9	
	C building	C35A/B to surge bin	10	
	C building	Surge bin to c feeder		
	C building	Feeder to crusher		

Table 1. Coal Yard Drop Operations

Segment	ID	Description	Drop	
	C building	Crusher to C36A/B	11	crusher
	Plant	C36A/B to C502	12	
	Plant	C502 to C504	13	
	Plant	C504 to silo	14	
D				
Barge to ground (SR) to Units 4 & 5				
	B-1	Clamshell to hopper	1	open
	B-2	Hopper to belt	2	
	B-3	Belt to C1	3	
	TP1-1	C1 to C2	4	
	TP3	C2 to C29A	5	
	TP 24-1	C29A TO C30A	6	
	TP25-1	C30A TO C31B	7	
	TP26-1	C31B TO C33A	8	
	TP27-1	C33A TO C34	9	
	SR	C34 TO Hopper	10	
	SR	Hopper to belt	11	
	SR	Belt to belt	12	
	SR	Belt to coal pile	13	open
	SR	Bucket wheel to belt	14	open
	SR	Belt to belt	15	
	SR	Belt to C34	16	
	TP27-1	C34 TO C35A/B	17	
	C building	C35A/B to surge bin	18	
	C building	Surge bin to c feeder		
	C building	Feeder to crusher		
	C building	Crusher to C36A/B	19	crusher
	Plant	C36A/B to C502	20	
	Plant	C502 to C504	21	
	Plant	C504 to silo	22	
E				
Rail to Units 1 & 2				
			Drops	
	R unloader	Rail car to hopper	1	open
	R unloader	V feeder to C10	2	
	R unloader	C10 to C11	3	
	TP23	C11 to C13	4	
	TP24	C13 to C29B	5	
	TP3	C29B to C4A/B	6	
	C building	C4A/B to surge bin	7	
	C building	Surge bin to feeder		
	C building	Feeder to crusher		
	C building	Crusher to C5 A/B	8	crusher
	Plant	C5 to surge hopper	9	
	Plant	Surge hopper to C7	10	
	Plant	C7 to C8	11	
	Plant	C8 to Silo	12	
F				
Rail to ground (SR) to Units 1 & 2				
	R unloader	Rail car to hopper	1	open
	R unloader	V feeder to C10	2	
	R unloader	C10 to C11	3	
	TP23	C11 to C13	4	
	TP24	C13 to C29B	5	

Table 1. Coal Yard Drop Operations

Segment	ID	Description	Drop	
	TP3	C29B to C3	6	
	SR	C3 to SR1	7	
	SR	SR1 to SR2	8	
	SR	SR2 to coal pile	9	open
	SR	Bucket wheel to SR2	10	open
	SR	Belt to belt	11	
	SR	Belt to C3	12	
	TP3	C3 to C4A/B	13	
	C building	C4 A/B to surge bin	14	
	C building	Surge bin to feeder		
	C building	Feeder to crusher		
	C building	Crusher to C5 A/B	15	crusher
	Plant	C5A/B to surge hopper	16	
	Plant	Surge hopper to C7	17	
	Plant	C7 to C8	18	
	Plant	C8 to Silo	19	
G				
Rail to Units 4 & 5				
	R unloader	Rail car to hopper	1	open
	R unloader	V feeder to C10	2	
	R unloader	C10 to C11	3	
	TP23	C11 to C13	4	
	TP24	C13 to C30A	5	
	TP25-1	C30A TO C31B	6	
	TP26-1	C31B TO C33A	7	
	TP27-1	C33A TO C35A/B	8	
	C building	C35A/B to surge bin	9	
	C building	Surge bin to c feeder		
	C building	Feeder to crusher		
	C building	Crusher to C36A/B	10	crusher
	Plant	C36A/B to C502	11	
	Plant	C502 to C504	12	
	Plant	C504 to silo	13	
H				
Rail to ground (SR) to Units 4 & 5				
	R unloader	Rail car to hopper	1	open
	R unloader	V feeder to C10	2	
	R unloader	C10 to C11	3	
	TP23	C11 to C13	4	
	TP24	C13 to C30A	5	
	TP25-1	C30A TO C31B	6	
	TP26-1	C31B TO C33A	7	
	TP27-1	C33A TO C34	8	
	SR	C34 TO Hopper	9	
	SR	Hopper to belt	10	
	SR	Belt to belt	11	
	SR	Belt to coal pile	12	open
	SR	Bucket wheel to belt	13	open
	SR	Belt to belt	14	
	SR	Belt to C34	15	
	TP27-1	C34 TO C35A/B	16	
	C building	C35A/B to surge bin	17	
	C building	Surge bin to c feeder		
	C building	Feeder to crusher		

Table 1. Coal Yard Drop Operations

Segment	ID	Description	Drop	
	C building	Crusher to C36A/B	18	crusher
	Plant	C36A/B to C502	19	
	Plant	C502 to C504	20	
	Plant	C504 to silo	21	

Table 2. Coal Yard Emissions - Past Actual and Future Potential

				Past Actual						New Configuration - plant at full load all year						
Segment		Annual	Daily*	Annual Coal Throughput (TPY)	Daily Coal Throughput (TPD)	Annual Emissions TSP (TPY)	Annual Emissions PM10 (TPY)	Daily Emissions TSP (LB/Day)	Daily Emissions PM10 (LB/Day)	Annual Coal Throughput (TPY)	Daily Coal Throughput (TPD)	Annual Emissions TSP (TPY)	Annual Emissions PM10 (TPY)	Daily Emissions TSP (LB/Day)	Daily Emissions PM10 (LB/Day)	AP-42 Equations
A	Barge to Units 1 & 2															
	Drops inclosed	9	9	43,389	0	0.017	0.008	0.000	0.000	7,797	0	0.003	0.001	0.000	0.000	13.2.4 1/95
	Drops open	1	1	43,389	0	0.019	0.009	0.000	0.000	7,797	0	0.003	0.002	0.000	0.000	13.2.4 1/95
	Crusher			43,389	0	0.022	0.011	0.000	0.000	7,797	0	0.004	0.002	0.000	0.000	
B	Barge to ground to Units 1& 2															
	Drops inclosed	14	6	824,391	0	0.493	0.233	0.000	0.000	148,149	0	0.089	0.042	0.000	0.000	13.2.4 1/95
	Drops open	3	2	824,391	0	1.057	0.500	0.000	0.000	148,149	0	0.190	0.090	0.000	0.000	13.2.4 1/95
	Crusher			824,391	0	0.412	0.206	0.000	0.000	148,149	0	0.074	0.037	0.000	0.000	
C	Barge to Units 4 & 5															
	Drops inclosed	12	12	1,093,338	13,000	0.561	0.265	19.957	9.439	2,193,260	13,000	1.125	0.532	19.957	9.439	13.2.4 1/95
	Drops open	1	1	1,093,338	13,000	0.467	0.221	16.630	7.866	2,193,260	13,000	0.937	0.443	16.630	7.866	13.2.4 1/95
	Crusher			1,093,338	13,000	0.547	0.273	13.000	6.500	2,193,260	13,000	1.097	0.548	13.000	6.500	
D	Barge to ground to Units 4 & 5															
	Drops inclosed	18	11	538,510	3,000	0.414	0.196	4.222	1.997	1,462,173	19,000	1.125	0.532	26.737	12.646	13.2.4 1/95
	Drops open	3	2	538,510	3,000	0.690	0.327	7.676	3.630	1,462,173	19,000	1.875	0.887	48.612	22.992	13.2.4 1/95
	Crusher			538,510	0	0.269	0.135	0.000	0.000	1,462,173	0	0.731	0.366	0.000	0.000	
E	Rail to Units 1 & 2															
	Drops inclosed	10	10	65,084	8,400	0.028	0.013	10.746	5.082	148,149	8,400	0.063	0.030	10.746	5.082	13.2.4 1/95
	Drops open	1	1	65,084	8,400	0.028	0.013	10.746	5.082	148,149	8,400	0.063	0.030	10.746	5.082	13.2.4 1/95
	Crusher			65,084	8,400	0.033	0.016	8.400	4.200	148,149	8,400	0.074	0.037	8.400	4.200	
F	Rail to ground to Units 1& 2															
	Drops inclosed	15	7	1,236,587	15,850	0.793	0.375	14.193	6.713	2,814,830	15,850	1.805	0.853	14.193	6.713	13.2.4 1/95
	Drops open	3	2	1,236,587	15,850	1.586	0.750	40.553	19.180	2,814,830	15,850	3.609	1.707	40.553	19.180	13.2.4 1/95
	Crusher			1,236,587	15,850	0.618	0.309	15.850	7.925	2,814,830	0	1.407	0.704	0.000	0.000	
G	Rail to Units 4 & 5															
	Drops inclosed	11	11	1,640,007	0	0.771	0.365	0.000	0.000	852,934	0	0.401	0.190	0.000	0.000	13.2.4 1/95
	Drops open	1	1	1,640,007	0	0.701	0.332	0.000	0.000	852,934	0	0.365	0.172	0.000	0.000	13 2.4 1/95
	Crusher			1,640,007	0	0.820	0.410	0.000	0.000	852,934	0	0.426	0.213	0.000	0.000	
H	Rail to ground to Units 4 & 5															
	Drops inclosed	17	10	807,765	0	0.587	0.278	0.000	0.000	568,623	0	0.413	0.195	0.000	0.000	13.2.4 1/95
	Drops open	3	2	807,765	0	1.036	0.490	0.000	0.000	568,623	0	0.729	0.345	0.000	0.000	13.2.4 1/95
	Crusher			807,765	0	0.404	0.202	0.000	0.000	568,623	0	0.284	0.142	0.000	0.000	
I	Pyrites															
	Drops inclosed	10	10	2,600	65	0.001	0.001	0.083	0.039	2,600	120	0.001	0.001	0.154	0.073	13.2.4 1/95
	Drops open	1	1	2,600	65	0.001	0.001	0.083	0.039	2,600	120	0.001	0.001	0.154	0.073	13.2.4 1/95
	Crusher			2,600	65	0.001	0.001	0.065	0.033	2,600	120	0.001	0.001	0.120	0.060	
	Total					12.375	5.937	162.203	77.726			16.896	8.102	210.001	99.906	

Note: AP-42 13.2.4: lb/ton = k(0.0035) x {[(U/5)^1.3] / [(M/2)^1.4]} where: k = 0.35 for PM10 and 0.74 for TSP, M = 7% Moisture, U = 8.8 MPH for Annual Average and 12 MPH for Daily Average

* The daily value is less because the coal is conveyed to ground.

Table 3. Unpaved Road Emissions

Original Source	Original Description	Past Actual Emissions: Vehicle Miles Traveled Annual VMT/YR	Vehicle Miles Traveled Daily VMT/DAY	Hours Per Year Annual HR/YR	Hours Per Day Daily HR/DAY	Annual TSP TPY	Annual PM10 TPY	Daily TSP LB/D	Daily PM10 LB/D	Future Potential Emissions: Vehicle Miles Traveled Annual VMT/YR	Vehicle Miles Traveled Daily VMT/DAY	Hours Per Year Annual HR/YR	Hours Per Day Daily HR/DAY	Annual TSP TPY	Annual PM10 TPY	Daily TSP LB/D	Daily PM10 LB/D	AP-42
MR-4	FEL Traffic	5,475	15			2.762	0.710	15.132	3.888	21,900	60			11.047	2.838	60.529	15.553	13.2.2 12/03
		5,475	15			1.684	0.433	9.230	2.372	21,900	60			6.738	1.731	36.920	9.487	13.2.2 12/03
CP-3	Front end loader	5,475	15			2.762	0.710	15.132	3.888					0.000	0.000	0.000	0.000	13.2.2 12/03
		5,475	15			1.684	0.433	9.230	2.372					0.000	0.000	0.000	0.000	13.2.2 12/03
CP-4	Scraper	4,200	200			0.515	0.232	49.053	22.064	7,300	20			0.897	0.753	4.914	4.125	
CP-5	Bulldozer			724	2	3.120	0.741	17.239	4.092			730	2	3.146	0.747	17.239	4.092	11.9 10/98
	Water Truck	2,738	8			1.648	0.424	9.030	2.320	7,300	20			4.395	1.129	24.080	6.187	13.2.2 12/03
	Total					14.176	3.681	124.046	40.997					26.222	7.199	143.683	39.444	

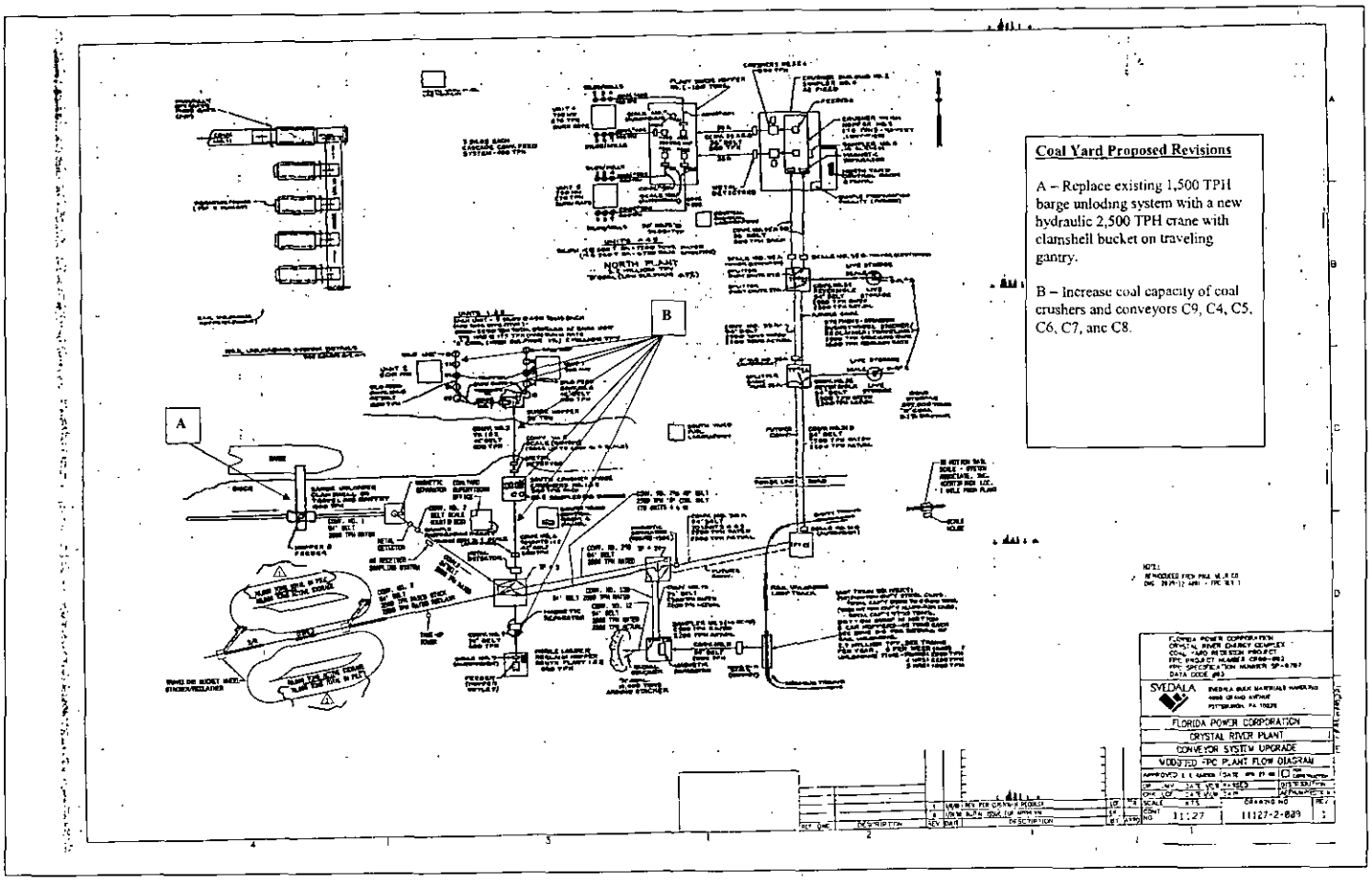
Table 4

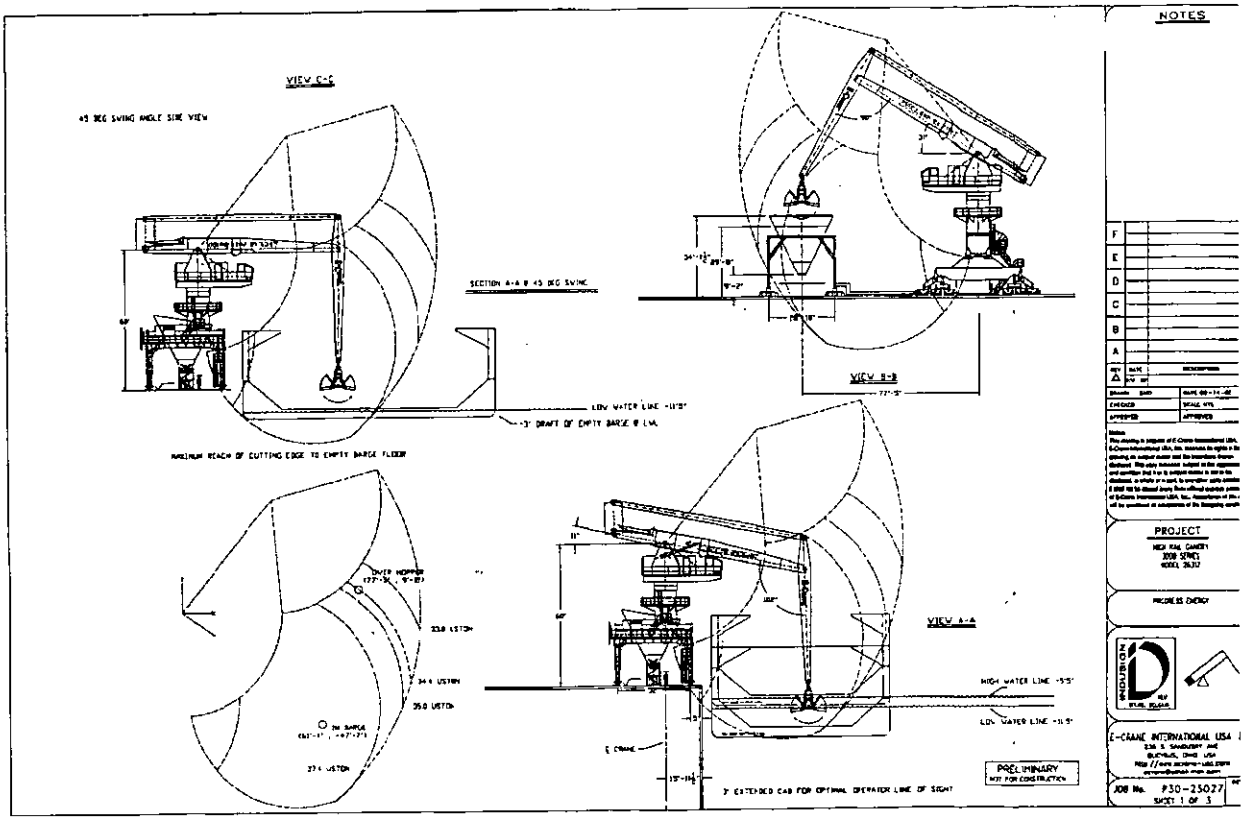
Typical Bituminous Coal Fuel Analysis

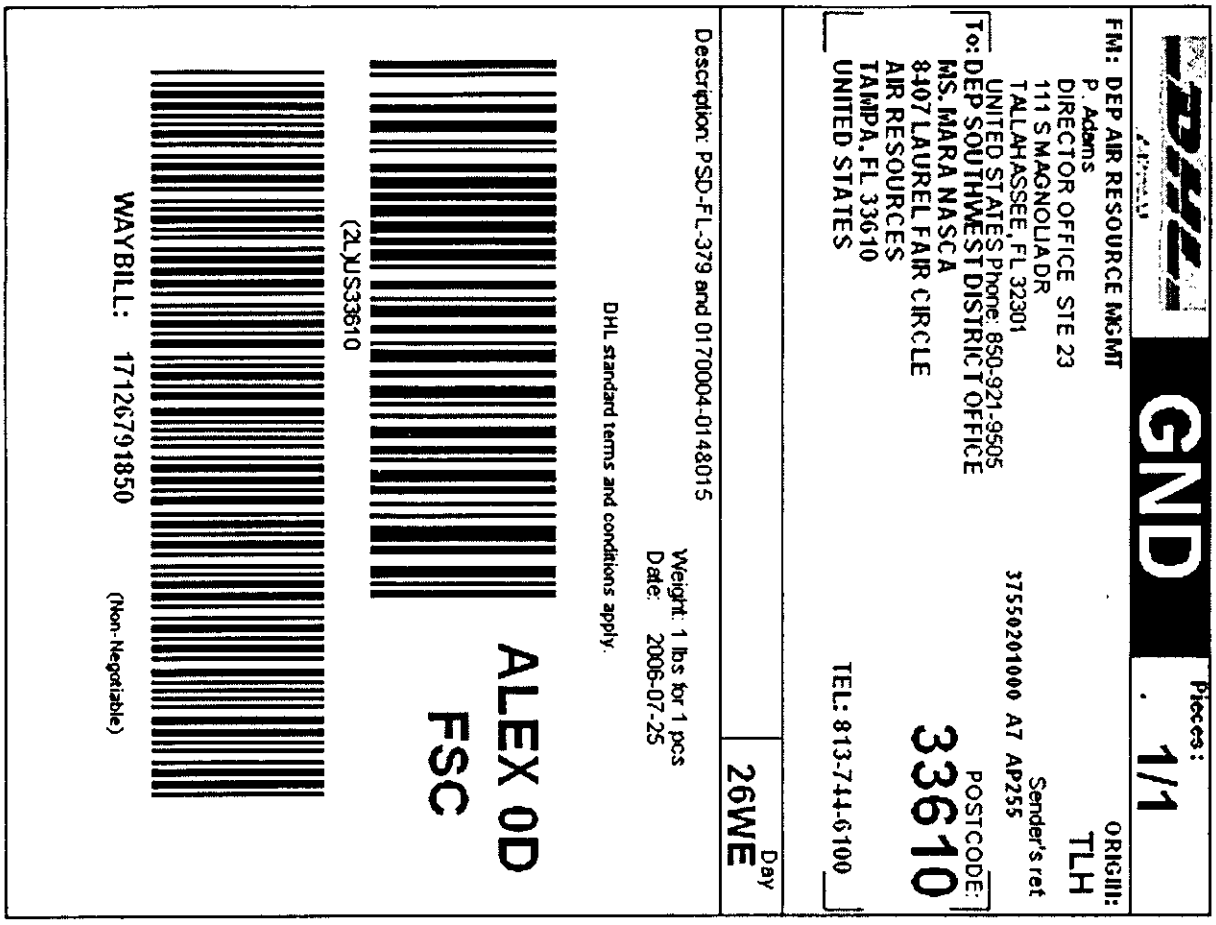
Parameter	Value 1&2	Value 4&5
Moisture content (%)	7.5	7.1
Ash Content (%)	8.9	8.3
Sulfur content (%)	1.2	0.7 (maximum)
Heat content (Btu/lb)	11,300 to 13,200	11,300 to 13,200

Note: The values listed are general or typical values based on information obtained from the fuel suppliers.

FIGURES


Coal Yard Proposed Revisions
A – Replace existing 1,500 TPH barge unloding system with a new hydraulic 2,500 TPH crane with clamshell bucket on traveling gantry.
B – Increase coal capacity of coal crushers and conveyors C9, C4, C5, C6, C7, and C8.
A
B
FLORIDA POWER CORPORATION
CRYSTAL RIVER PLANT
CONVEYOR SYSTEM UPGRADE
MODIFIED FPC PLANT FLOW DIAGRAM
SVEDALA
11127-2-609


VIEW C-C
45 DEG SWING ANGLE SIDE VIEW
SECTION A-A @ 45 DEG SWING
LOW WATER LINE -11'0"
-3' DRAFT OF EMPTY BARGE @ L.W.
MAXIMUM REACH OF CUTTING EDGE TO EMPTY BARGE FLOOR
VIEW B-B
VIEW A-A
HIGH WATER LINE -5'5"
LOW WATER LINE -11'5"
E CRANE
PRELIMINARY
NOT FOR CONSTRUCTION
3' EXTENDED CAB FOR OPTIMAL OPERATOR LINE OF SIGHT
NOTES
PROJECT
PROGRESS ENERGY
E-CRANE INTERNATIONAL USA
JOB No. P30-25027
SHEET 1 OF 3



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