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APR 25 2012

DIVISION OF AIR  
RESOURCE MANAGEMENT



# APPLICATION TO REMOVE CARBON MONOXIDE REQUIREMENTS FROM AIR PERMIT

JEA Greenland Energy Center  
Jacksonville, Florida

Project No: 0310561-005-AC  
0310561-006-AV

Model No: ABO77-AC  
ABO78-AV

Prepared For: JEA  
21 West Church Street  
Jacksonville, FL 32202

Submitted By: Golder Associates Inc.  
6026 NW 1st Place  
Gainesville, FL 32607 USA

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2 copies – JEA  
1 copy – Golder Associates Inc.

April 2012

123-87572



PERMIT APPLICATION

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# Department of Environmental Protection

## Division of Air Resource Management

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APPLICATION FOR AIR PERMIT - LONG FORM APR 25 2012

### I. APPLICATION INFORMATION

DIVISION OF AIR RESOURCE MANAGEMENT

**Air Construction Permit** – Use this form to apply for an air construction permit:

- For any required purpose at a facility operating under a federally enforceable state air operation permit (FESOP) or Title V air operation permit;
- For a proposed project subject to prevention of significant deterioration (PSD) review, nonattainment new source review, or maximum achievable control technology (MACT);
- To assume a restriction on the potential emissions of one or more pollutants to escape a requirement such as PSD review, nonattainment new source review, MACT, or Title V; or
- 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, or renewal Title V air operation permit.

To ensure accuracy, please see form instructions.

#### Identification of Facility

1. Facility Owner/Company Name: <b>JEA</b>	
2. Site Name: <b>Greenland Energy Center</b>	
3. Facility Identification Number: <b>0310561</b>	
4. Facility Location... Street Address or Other Locator: <b>6850 Energy Center Drive</b> City: <b>Jacksonville</b> County: <b>Duval</b> Zip Code: <b>32256</b>	
5. Relocatable Facility? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	6. Existing Title V Permitted Facility? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No

#### Application Contact

1. Application Contact Name: <b>Jay A. Worley, Director, Environmental Programs</b>	
2. Application Contact Mailing Address... Organization/Firm: <b>JEA</b> Street Address: <b>21 West Church Street</b> City: <b>Jacksonville</b> State: <b>FL</b> Zip Code: <b>32202-3139</b>	
3. Application Contact Telephone Numbers... Telephone: <b>(904) 665-8729</b> ext. Fax: <b>(904) 665-7376</b>	
4. Application Contact E-mail Address: <b>WorJA@jea.com</b>	

#### Application Processing Information (DEP Use)

1. Date of Receipt of Application:	3. PSD Number (if applicable):
2. Project Number(s):	4. Siting Number (if applicable):

## APPLICATION INFORMATION

### Purpose of Application

**This application for air permit is being 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)**

- 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:**

- 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

**See attached description.**

# APPLICATION INFORMATION

## Scope of Application

Emissions Unit ID Number	Description of Emissions Unit	Air Permit Type	Air Permit Processing Fee
01	Unit 1 – G.E. PG7241FA gas turbine electrical generator	AC1B	N/A
02	Unit 2 – G.E. PG7241FA gas turbine electrical generator	AC1B	N/A

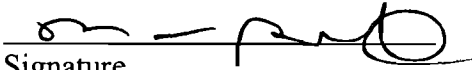
### Application Processing Fee

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 : <b>Michael J. Brost, P.E., Vice President Electric Systems</b>
2. Owner/Authorized Representative Mailing Address... Organization/Firm: <b>JEA</b> Street Address: <b>21 West Church Street</b> City: <b>Jacksonville</b> State: <b>FL</b> Zip Code: <b>32202</b>
3. Owner/Authorized Representative Telephone Numbers... Telephone: <b>(904) 665-7547</b> ext. Fax: <b>(904) 665-4238</b>
4. Owner/Authorized Representative E-mail Address: <b>brostmj@jea.com</b>
5. Owner/Authorized Representative Statement:  <i>I, the undersigned, am the owner or authorized representative of the corporation, partnership, or other legal entity submitting this air permit application. To the best of my knowledge, the statements made in this application are true, accurate and complete, and any estimates of emissions reported in this application are based upon reasonable techniques for calculating emissions. I understand that a permit, if granted by the department, cannot be transferred without authorization from the department.</i>   Signature  <u>4-20-2012</u> Date

## APPLICATION INFORMATION

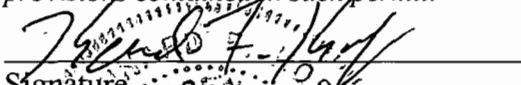
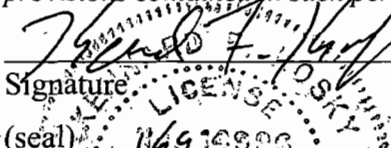
### Application Responsible Official Certification

Complete if applying for an initial, revised, or renewal Title V air operation permit or concurrent processing of an air construction permit and revised or renewal Title V air operation 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):			
<input type="checkbox"/> 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.			
<input type="checkbox"/> For a partnership or sole proprietorship, a general partner or the proprietor, respectively.			
<input type="checkbox"/> For a municipality, county, state, federal, or other public agency, either a principal executive officer or ranking elected official.			
<input type="checkbox"/> The designated representative at an Acid Rain source or CAIR 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 E-mail Address:			
6. Application Responsible Official Certification:			
<p>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.</p>			
_____ Signature		_____ Date	

# APPLICATION INFORMATION

## Professional Engineer Certification

1. Professional Engineer Name: <b>Kennard F. Kosky</b> Registration Number: <b>14996</b>
2. Professional Engineer Mailing Address... Organization/Firm: <b>Golder Associates Inc.**</b> Street Address: <b>6026 NW 1st Place</b> City: <b>Gainesville</b> State: <b>FL</b> Zip Code: <b>32607</b>
3. Professional Engineer Telephone Numbers... Telephone: <b>(352) 336-5600</b> ext. <b>21156</b> Fax: <b>(352) 336-6603</b>
4. Professional Engineer E-mail Address: <b>kkosky@golder.com</b>
5. Professional Engineer Statement: <i>I, the undersigned, hereby certify, except as particularly noted herein*, that:</i> <i>(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</i> <i>(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.</i> <i>(3) If the purpose of this application is to obtain a Title V air operation permit (check here <input type="checkbox"/> , 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.</i> <i>(4) If the purpose of this application is to obtain an air construction permit (check here <input checked="" type="checkbox"/> , 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 <input type="checkbox"/> , 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.</i> <i>(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 <input type="checkbox"/> , 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.</i>  Signature:  Date: <u>4/19/12</u> (seal) 

\* Attach any exception to certification statement.

\*\*Board of Professional Engineers Certificate of Authorization #00001670.

**APPLICATION COMMENT**



## APPLICATION COMMENT

This application requests the removal of the carbon monoxide (CO) emissions limits and the requirement to maintain and operate CO continuous emission monitoring systems (CEMS) from the final air construction/Prevention of Significant Deterioration (PSD) permit (Air Permit No. PSD-FL-401; Project No. 0310561-001) established for two General Electric PG7241FA gas turbine electrical generators located at the Greenland Energy Center (GEC). In the air construction/PSD permit application, these two simple cycle turbines at GEC were to be converted to combined cycle operation as the second phase of the project. However, due to changes in projected electrical demand that have occurred since issuance of the construction permit, the plans for conversion to combined cycle operation have been placed on hold indefinitely.

The Technical Evaluation and Preliminary Determination (TE&PD), JEA Greenland Energy Center, Units 1 and 2 Simple Cycle Combustion Turbines issued by the Department with the draft air construction/PSD permit states that the new source review applicability was based on the potential emissions of both simple cycle operation and combined cycle operation. For combined cycle operation, the facility was PSD major for CO with a potential to emit (PTE) of 251.89 tons per year (TPY) (see Table 3, Page 10 of 31 of TE&PD). As a result, PSD review was conducted for CO, and CO emission limits were established as BACT that include the use of CEMS to determine compliance. The PTE of the two units in simple cycle operation as described in the TE&PD is 70.24 TPY combined (see Table 3 of TE&PD). Since the combined cycle conversion will not go forward in the near future, the simple cycle portion of the project approved by the Department is not PSD major for CO. This is consistent with Rule 62-212.400(12), Florida Administrative Code, and Condition 7 in Section II of the air construction/PSD permit that requires reconsideration of the PSD approval if, for a phased project, construction is not commenced within 18 months of the approval for that phase.

For this reason, JEA is requesting that the Department remove the CO emission limits and the requirement for CO CEMS. Also, JEA requests that the Department concur that the permit limits for CO for simple cycle operation have been demonstrated and that CO emission limits are no longer needed, since the PTE is well below the PSD significant emission rate for CO (i.e., 70.24 TPY compared to 100 TPY). A review of the hourly CEMS data for 2011 indicates that the total annual CO emissions were approximately 24 tons for Units 1 and 2. In addition, the median hourly CO concentrations for Units 1 and 2 were 1.3 and 0.9 parts per million respectively, for non-startup or shutdown conditions (i.e, loads less than 65 megawatts). As a result, CEMS data demonstrate that CO emissions are well below the PSD review threshold and CO CEMS and CO emission limits are no longer required.

At Golder Associates we strive to be the most respected global group of companies specializing in ground engineering and environmental services. Employee owned since our formation in 1960, we have created a unique culture with pride in ownership, resulting in long-term organizational stability. Golder professionals take the time to build an understanding of client needs and of the specific environments in which they operate. We continue to expand our technical capabilities and have experienced steady growth with employees now operating from offices located throughout Africa, Asia, Australasia, Europe, North America and South America.

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