

**REVISED  
TECHNICAL EVALUATION  
&  
PRELIMINARY DETERMINATION**

**PROJECT**

Draft Air Construction Permit No. PSD-FL-392  
Project No. 0170004-018-AC  
South Cooling Towers

**COUNTY**

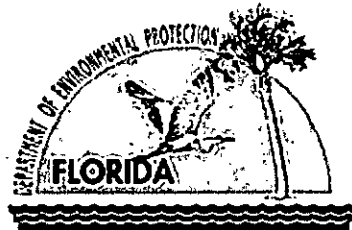
Citrus

**APPLICANT**

Progress Energy Florida, Inc.  
Crystal River Power Plant  
ARMS Facility ID No. 0170004

**PERMITTING  
AUTHORITY**

Florida Department of Environmental Protection  
Division of Air Resource Management  
Bureau of Air Regulation  
Air Permitting North Section



October 8, 2007

# TECHNICAL EVALUATION AND PRELIMINARY DETERMINATION

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## 1. GENERAL PROJECT INFORMATION

### Applicant Name and Address

Progress Energy Florida, Inc.  
Crystal River Power Plant  
North of Crystal River, West of U.S. 19  
Crystal River, FL 34428

### Facility Description and Location

Progress Energy Florida, Inc. operates an existing electrical generating power plant (SIC No. 4911) located in Citrus County north of Crystal River, west of U.S. 19 in Crystal River, Florida. The UTM coordinates are Zone 17, 334.2 km east and 3204.5 km north. The facility consists of the following: four coal-fired fossil fuel steam generating units with electrostatic precipitators; two natural draft cooling towers; two sets of mechanical draft cooling towers (one set of "helper" cooling towers and a second set of "modular" cooling towers); Nuclear Unit 3; coal and ash material handling facilities; and relocatable diesel fired generators.

### Regulatory Categories

The facility is a major source of hazardous air pollutants.

The facility operates units subject to the acid rain provisions of the Clean Air Act.

The facility is a Title V major source of air pollution in accordance with Chapter 213, Florida Administrative Code, (F.A.C.).

The facility is a major stationary source in accordance with Rule 62-212.400, F.A.C. for the Prevention of Significant Deterioration (PSD) of Air Quality.

### Project Description

On June 11, 2007, the Department received an application from Progress Energy for the Crystal River Power Plant for the construction of additional mechanical draft cooling towers referred to as south cooling towers (SCT). Additional cooling capacity is needed to support the project to uprate the capacity of existing nuclear Unit 3. An uprate of 40 MW will be added during the 2009 refueling outage from equipment modifications and an additional 140 MW will be added during the 2011 refueling outage from upgrades to the reactor.

Currently, Progress Energy plans to install the SCT to help remove the incremental heat generated by the uprate. However, they are also considering replacing the existing modular cooling towers (EU-020) with new equipment as part of the SCT project. This would require 11 additional cells to replace the existing modular cooling towers (EU-020), six cells to dissipate the incremental heat from the uprate project, and an additional cell to provide a factor of safety for the worst-case scenario. The total design would be 18 cells arranged in a nine by two configuration that would operate continuously. The cooling flow rate for all eighteen cells is estimated at 342,306 gallons per minute and the design air flow rate per cell is estimated at 1,500,000 acfm.

The cooling towers provide direct contact between the cooling water and air passing through the tower. Drift is created when small amounts of cooling water become entrained in the air stream and are carried out of the tower. Salt and solids in the water droplets are emitted as particulate matter (PM) that escapes as drift from the tower. Drift eliminators is the control technology used to control PM emissions caused by the cooling tower drift.

## 2. APPLICABLE REGULATIONS

### State Regulations

This project is subject to the applicable rules and regulations defined in the following Chapters F.A.C.: 62-4 (Permitting Requirements); 62-204 (Ambient Air Quality Requirements, PSD Increments, and Federal Regulations Adopted by Reference); 62-210 (Permits Required, Public Notice, Reports, Stack Height Policy, Circumvention, Excess Emissions, and Forms); 62-212 (Preconstruction Review, PSD Review and BACT, and Non-attainment Area Review and LAER); 62-213 (Title V Air Operation Permits for Major Sources of Air Pollution); 62-296 (Emission Limiting Standards); 62-297 (Test Methods and Procedures, Continuous Monitoring Specifications, and Alternate Sampling Procedures).

### General PSD Applicability

A PSD preconstruction review is required in areas currently in attainment with the state and federal Ambient Air Quality Standards (AAQS) or areas designated as "unclassifiable" for a given pollutant. A new facility is considered "major" with respect to PSD if it emits or has the potential to emit: 250 tons per year or more of any regulated air pollutant; or 100 tons per year or more of any

## TECHNICAL EVALUATION AND PRELIMINARY DETERMINATION

regulated air pollutant and the facility belongs to one of the 28 PSD Major Facility Categories defined in Rule 62-210.200, F.A.C.; or 5 tons per year of lead.

For new projects at existing PSD major stationary sources, each regulated pollutant is reviewed for PSD applicability based on emissions thresholds known as the significant emission rates defined in Rule 62-210.200, F.A.C. Pollutant emissions from the project exceeding these rates are considered "significant" and the applicant must employ the Best Available Control Technology (BACT) to minimize emissions of each such pollutant and evaluate the air quality impacts. Although a facility may be "major" with respect to PSD for only one regulated pollutant, it may be required to install BACT controls for several "significant" regulated pollutants.

### PSD Applicability for Project

The Crystal River Power Plant is an existing PSD major stationary source located in Citrus County, which is in an area that is currently in attainment with the state and federal AAQS or otherwise designated as unclassifiable. The applicant proposes to construct and operate mechanical draft cooling towers to support the project to uprate nuclear Unit 3. The cooling towers will emit PM as a result of the carry over of solids in the water droplet drift. The PM emissions include particles with a mean diameter of 10 microns or less (PM<sub>10</sub>) as well as 2.5 microns or less (PM<sub>2.5</sub>)

Particulate Matter will be controlled by drift rate design specifications, which serves as a surrogate to control PM<sub>10</sub> and PM<sub>2.5</sub>. Based on the application, future PM emissions are estimated to be 97.6 tons/year based on 8760 hours per year. Because PM emissions will exceed 25 tons per year, a PSD review for this project is required. PM<sub>10</sub> emissions are estimated to be only 5.9 tons per year. The calculation is based upon the study, "Calculating Realistic PM<sub>10</sub> Emissions from Cooling Towers" by Joel Reisman and Gordon Frisbie. Based on the study, the authors of the paper contend that PM<sub>10</sub> emissions increase with PM as the concentration of total dissolved solids (TDS) increases to about 4000 ppm. At TDS levels greater than 4000 ppm, the amount of PM<sub>10</sub> sized particles will decrease while PM continues to increase. The paper states that at higher TDS, the drift droplets contain more solids and therefore, upon evaporation, result in larger particles for any given initial droplet size.

Table 1 provides a graph of the correlation of PM and PM<sub>10</sub> as a function of TDS in the circulating water. With the estimated TDS of 25,307 ppm for the new cooling towers and a circulating flow rate of 342,306 gallons per minute, the report suggests large PM emissions with minimal PM<sub>10</sub> emissions as indicated in the application. The estimated PM<sub>10</sub> emissions do not exceed the significant emission rate for PM<sub>10</sub> of 15 tons/year. Therefore, a BACT determination is required for PM, but no air quality analysis is required because the increase in PM<sub>10</sub> emissions is less than the PSD significant emissions rate.

### BACT Determination

To minimize PM emissions from the cooling towers, the applicant proposed a design drift rate for the equipment of 0.0005%. The Department conducted a review of EPA's RACT/BACT/LAER Clearinghouse for mechanical draft cooling towers between 2003 and 2006. Based upon the review, the Department concludes that BACT for mechanical draft cooling towers is based upon drift eliminators. BACT has been established as low as 0.0005% drift rate. The Department agrees with the applicant and the preliminary BACT is a design drift rate of 0.0005% for the new cooling tower.

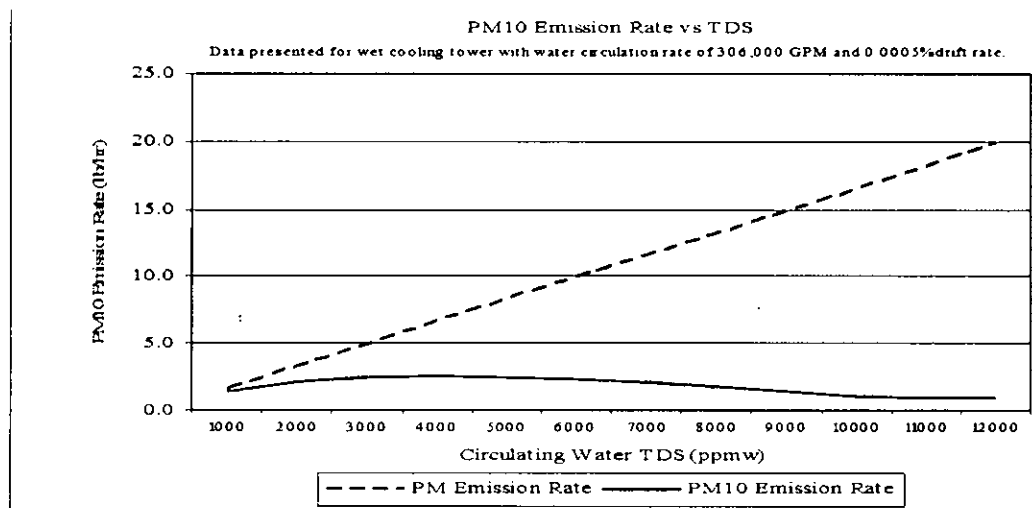


Table 1- PM and PM<sub>10</sub> Emission Rates vs. TDS

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## TECHNICAL EVALUATION AND PRELIMINARY DETERMINATION

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### 3. PERMIT CONDITIONS

The draft permit will include the following primary conditions:

Cooling Towers: The permittee is authorized to construct and operate new mechanical draft cooling towers with the following nominal design characteristics: a circulating flow rate of approximately 342,306 gallons per minute (19,017 gpm per cell); a design air flow of approximately 1,500,000 acfm per cell; and drift eliminators designed for a drift rate of no more than 0.0005% of the circulating water flow for each tower. [Application No. 0170004-018-AC and Design]

Hours of Operation: The new cooling towers may operate continuously (8760 hours per calendar year). [Application No. 0170004-018-AC]

Cooling Tower Design: The cooling towers shall be designed and maintained to achieve a drift rate of no more than 0.0005% of the circulating water flow. [Application 0170004-018-AC and Design]

Drift Rate: Within 60 days of commencing operation, the permittee shall notify the compliance authority that the cooling towers were constructed and installed to achieve the specific drift rate of no more than 0.0005% of the circulating flow rate and of the final configuration. [Application 0170004-018-AC and Design]

Circulating Water Flow Rate: Upon request, the applicant shall provide a means for determining the circulating water flow rate through the new cooling tower. [Rule 62-4.070, F.A.C.]

Emissions Report: PM and PM<sub>10</sub> emissions shall be reported as part of the annual operating report.

### 4. PRELIMINARY DETERMINATION

The Department makes a preliminary determination that the proposed project will comply with all applicable state and federal air pollution regulations as conditioned by the draft permit. This determination is based on a technical review of the complete application, reasonable assurances provided by the applicant, and the conditions specified in the draft permit. No air quality modeling analysis is required because the project does not result in a significant increase in the PM<sub>10</sub> emissions. Corrie Branum is the project engineer responsible for reviewing the application and drafting the permit. Additional details of this analysis may be obtained by contacting the project engineer at the Department's Bureau of Air Regulation at Mail Station #5505, 2600 Blair Stone Road, Tallahassee, Florida 32399-2400.

**Harvey, Mary**

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**From:** Meyer, Dave [Dave.Meyer@pgnmail.com]  
**To:** Harvey, Mary  
**Sent:** Monday, August 27, 2007 10:24 AM  
**Subject:** Read: FW: PROGRESS ENERGY FLORIDA, INC., - CRYSTAL RIVER POWER PLANT - 0170004-018-AC-DRAFT

Your message

**To:** Dave.Meyer@pgnmail.com  
**Subject:**

was read on 8/27/2007 10:24 AM.

**Harvey, Mary**

---

**From:** Meyer, Dave [Dave.Meyer@pgnmail.com]  
**Sent:** Monday, August 27, 2007 2:08 PM  
**To:** Harvey, Mary  
**Subject:** RE: PROGRESS ENERGY FLORIDA, INC., - CRYSTAL RIVER POWER PLANT - 0170004-018-AC-DRAFT

Hi Marry,

I got the email. Thank you very much!

Best Regards, Dave 727 820 5295

-----Original Message-----

**From:** Harvey, Mary [mailto:Mary.Harvey@dep.state.fl.us]  
**Sent:** Monday, August 27, 2007 10:21 AM  
**To:** Meyer, Dave  
**Subject:** FW: PROGRESS ENERGY FLORIDA, INC., - CRYSTAL RIVER POWER PLANT - 0170004-018-AC-DRAFT

---

**From:** Harvey, Mary  
**Sent:** Monday, August 27, 2007 10:18 AM  
**To:** 'Mr. Bernie Cumie, Progress Energy Florida, Inc.'; 'Ron.Johnson@pgnmail.com'  
**Subject:** FW: PROGRESS ENERGY FLORIDA, INC., - CRYSTAL RIVER POWER PLANT - 0170004-018-AC-DRAFT

---

**From:** Harvey, Mary  
**Sent:** Friday, August 24, 2007 11:54 AM  
**To:** 'Mr. Bernie Cumie, Progress Energy Florida, Inc.'; 'Mr. Dave Meyer, Progress Energy Florida, Inc.'; 'Mr. Scott Osbourn, Golder Associates, Inc.'; 'Ms. Kathleen Forney, EPA Region 4'; Nasca, Mara  
**Cc:** Adams, Patty; Gibson, Victoria; Branum, Corrie  
**Subject:** PROGRESS ENERGY FLORIDA, INC., - CRYSTAL RIVER POWER PLANT - 0170004-018-AC-DRAFT

Dear Sir/Madam:

Please send a "reply" message verifying receipt of the attached document(s); this may be done by selecting "Reply" on the menu bar of your e-mail software and then selecting "Send". We must receive verification of receipt and your reply will preclude subsequent e-mail transmissions to verify receipt of the document(s).

The document(s) may require immediate action within a specified time frame. Please open and review the document(s) as soon as possible.

The document is in Adobe Portable Document Format (pdf). Adobe Acrobat Reader can be downloaded for free at the following internet site:

**Harvey, Mary**

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**From:** Cumbie, Bernie M. [Bernie.Cumbie@pgnmail.com]  
**Sent:** Monday, August 27, 2007 7:40 AM  
**To:** Harvey, Mary  
**Subject:** RE: PROGRESS ENERGY FLORIDA, INC., - CRYSTAL RIVER POWER PLANT - 0170004-018-AC-DRAFT

-----Original Message-----

**From:** Harvey, Mary [mailto:Mary.Harvey@dep.state.fl.us]  
**Sent:** Friday, August 24, 2007 2:20 PM  
**To:** Cumbie, Bernie M.; Meyer, Dave; Mr. Scott Osbourn, Golder Associates, Inc.; Ms. Kathleen Forney, EPA Region 4; Nasca, Mara  
**Cc:** Adams, Patty; Gibson, Victoria; Branum, Corrie  
**Subject:** RE: PROGRESS ENERGY FLORIDA, INC., - CRYSTAL RIVER POWER PLANT - 0170004-018-AC-DRAFT

Good Afternoon:

When I sent you this email before lunch I didn't know that I had computer problems. Anyway to make a long story short – please forward me again the read receipt. I was not able to receive the read receipt earlier. Thanks for your kindness and have a good weekend.

Mary Harvey

---

**From:** Harvey, Mary  
**Sent:** Friday, August 24, 2007 11:54 AM  
**To:** 'Mr. Bernie Cumie, Progress Energy Florida, Inc.'; 'Mr. Dave Meyer, Progress Energy Florida, Inc.'; 'Mr. Scott Osbourn, Golder Associates, Inc.'; 'Ms. Kathleen Forney, EPA Region 4'; Nasca, Mara  
**Cc:** Adams, Patty; Gibson, Victoria; Branum, Corrie  
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<http://www.adobe.com/products/acrobat/readstep.html>.

The Bureau of Air Regulation is issuing electronic documents for permits, notices and

**Harvey, Mary**

**From:** Harvey, Mary  
**Sent:** Friday, August 24, 2007 2:20 PM  
**To:** 'Mr. Bernie Cumie, Progress Energy Florida, Inc.'; 'Mr. Dave Meyer, Progress Energy Florida, Inc.'; 'Mr. Scott Osbourn, Golder Associates, Inc.'; 'Ms. Kathleen Forney, EPA Region 4'; Nasca, Mara  
**Cc:** Adams, Patty; Gibson, Victoria; Branum, Corrie  
**Subject:** RE: PROGRESS ENERGY FLORIDA, INC., - CRYSTAL RIVER POWER PLANT - 0170004-018-AC-DRAFT

Tracking: Recipient	Delivery	Read
✓ 'Mr. Bernie Cumie, Progress Energy Florida, Inc.'		
✓ 'Mr. Dave Meyer, Progress Energy Florida, Inc.'		
✓ 'Mr. Scott Osbourn, Golder Associates, Inc.'		
✓ 'Ms. Kathleen Forney, EPA Region 4'		
✓ Nasca, Mara	Delivered: 8/24/2007 2:20 PM	Read: 8/24/2007 2:36 PM
✓ Adams, Patty		Read: 8/27/2007 2:01 PM
✓ Gibson, Victoria		Read: 8/24/2007 2:28 PM
✓ Branum, Corrie	Delivered: 8/24/2007 2:20 PM	Read: 8/24/2007 2:42 PM

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Mary Harvey

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The document is in Adobe Portable Document Format (pdf). Adobe Acrobat Reader can be downloaded for free at the following internet site:

8/31/2007



<http://www.adobe.com/products/acrobat/readstep.html>.

The Bureau of Air Regulation is issuing electronic documents for permits, notices and other correspondence in lieu of hard copies through the United States Postal System, to provide greater service to the applicant and the engineering community. Please advise this office of any changes to your e-mail address or that of the Engineer-of-Record.

Thank you,

DEP, Bureau of Air Regulation

8/31/2007

## Harvey, Mary

---

**From:** Osbourn, Scott [Scott\_Osbourn@golder.com]  
**To:** undisclosed-recipients  
**Sent:** Friday, August 24, 2007 2:47 PM  
**Subject:** Read: PROGRESS ENERGY FLORIDA, INC., - CRYSTAL RIVER POWER PLANT - 0170004-018-AC-DRAFT

Your message

**To:** Scott\_Osbourn@golder.com  
**Subject:**

was read on 8/24/2007 2:47 PM.

## Harvey, Mary

---

**From:** Branum, Corrie  
**To:** Harvey, Mary  
**Sent:** Friday, August 24, 2007 2:44 PM  
**Subject:** Read: PROGRESS ENERGY FLORIDA, INC., - CRYSTAL RIVER POWER PLANT - 0170004-018-AC-DRAFT

### Your message

**To:** 'Mr. Bernie Cumie, Progress Energy Florida, Inc.'; 'Mr. Dave Meyer, Progress Energy Florida, Inc.'; 'Mr. Scott Osbourn, Golder Associates, Inc.'; 'Ms. Kathleen Forney, EPA Region 4'; Nasca, Mara  
**Cc:** Adams, Patty; Gibson, Victoria; Branum, Corrie  
**Subject:** RE: PROGRESS ENERGY FLORIDA, INC., - CRYSTAL RIVER POWER PLANT - 0170004-018-AC-DRAFT  
**Sent:** 8/24/2007 2:20 PM

was read on 8/24/2007 2:42 PM.

## Harvey, Mary

---

**From:** Nasca, Mara  
**To:** Harvey, Mary  
**Sent:** Friday, August 24, 2007 2:36 PM  
**Subject:** Read: RE: PROGRESS ENERGY FLORIDA, INC., - CRYSTAL RIVER POWER PLANT - 0170004-018-AC-DRAFT

### Your message

**To:** 'Mr. Bernie Cumie, Progress Energy Florida, Inc.'; 'Mr. Dave Meyer, Progress Energy Florida, Inc.'; 'Mr. Scott Osbourn, Golder Associates, Inc.'; 'Ms. Kathleen Forney, EPA Region 4'; Nasca, Mara  
**Cc:** Adams, Patty; Gibson, Victoria; Branum, Corrie  
**Subject:** RE: PROGRESS ENERGY FLORIDA, INC., - CRYSTAL RIVER POWER PLANT - 0170004-018-AC-DRAFT  
**Sent:** 8/24/2007 2:20 PM

was read on 8/24/2007 2:36 PM.

## Harvey, Mary

---

**From:** Gibson, Victoria  
**To:** Harvey, Mary  
**Sent:** Friday, August 24, 2007 2:28 PM  
**Subject:** Read: RE: PROGRESS ENERGY FLORIDA, INC., - CRYSTAL RIVER POWER PLANT - 0170004-018-AC-DRAFT

### Your message

**To:** 'Mr. Bernie Cumie, Progress Energy Florida, Inc.'; 'Mr. Dave Meyer, Progress Energy Florida, Inc.'; 'Mr. Scott Osbourn, Golder Associates, Inc.'; 'Ms. Kathleen Forney, EPA Region 4'; Nasca, Mara  
**Cc:** Adams, Patty; Gibson, Victoria; Branum, Corrie  
**Subject:** RE: PROGRESS ENERGY FLORIDA, INC., - CRYSTAL RIVER POWER PLANT - 0170004-018-AC-DRAFT  
**Sent:** 8/24/2007 2:20 PM

was read on 8/24/2007 2:28 PM.

**Harvey, Mary**

---

**From:** Johnson, Ron [Ron.Johnson@pgnmail.com]  
**Sent:** Monday, August 27, 2007 9:28 AM  
**To:** Harvey, Mary  
**Cc:** Wilkinson, Cynthia  
**Subject:** FW: PROGRESS ENERGY FLORIDA, INC., - CRYSTAL RIVER POWER PLANT - 0170004-018-AC-DRAFT

Mary,

I just spoke with Bernie Cumbie and he told me that he never received the attachment that was supposed to have been sent on August 24. He replied back to your second email not sure that there was supposed to be an attachment. Can you resend the original email along with the attachment to Bernie Cumbie (and perhaps the other recipients in the original email)?

Thanks.

Please call if you have any questions.

**Ron Johnson**  
**Crystal River Fossil Plant**  
**Sr. Environmental Specialist**  
(352) 563-4568  
(352) 464-7909 (CELL)  
(352) 563-4496 (FAX)

-----Original Message-----

**From:** Cumbie, Bernie M.  
**Sent:** Monday, August 27, 2007 7:41 AM  
**To:** Johnson, Ron; Wilkinson, Cynthia  
**Subject:** FW: PROGRESS ENERGY FLORIDA, INC., - CRYSTAL RIVER POWER PLANT - 0170004-018-AC-DRAFT

FYI

-----Original Message-----

**From:** Harvey, Mary [mailto:Mary.Harvey@dep.state.fl.us]  
**Sent:** Friday, August 24, 2007 2:20 PM  
**To:** Cumbie, Bernie M.; Meyer, Dave; Mr. Scott Osbourn, Golder Associates, Inc.; Ms. Kathleen Forney, EPA Region 4; Nasca, Mara  
**Cc:** Adams, Patty; Gibson, Victoria; Branum, Corrie  
**Subject:** RE: PROGRESS ENERGY FLORIDA, INC., - CRYSTAL RIVER POWER PLANT - 0170004-018-AC-DRAFT

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Mary Harvey

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**Sent:** Friday, August 24, 2007 11:54 AM  
**To:** 'Mr. Bernie Cumie, Progress Energy Florida, Inc.'; 'Mr. Dave Meyer, Progress Energy Florida, Inc.'; 'Mr. Scott Osbourn, Golder Associates, Inc.'; 'Ms. Kathleen Forney, EPA Region 4'; Nasca, Mara

8/27/2007

## Harvey, Mary

---

**From:** Adams, Patty  
**To:** Harvey, Mary  
**Sent:** Monday, August 27, 2007 2:01 PM  
**Subject:** Read: RE: PROGRESS ENERGY FLORIDA, INC., - CRYSTAL RIVER POWER PLANT - 0170004-018-AC-DRAFT

Your message

**To:** 'Mr. Bernie Cumie, Progress Energy Florida, Inc.'; 'Mr. Dave Meyer, Progress Energy Florida, Inc.'; 'Mr. Scott Osbourn, Golder Associates, Inc.'; 'Ms. Kathleen Forney, EPA Region 4'; Nasca, Mara  
**Cc:** Adams, Patty; Gibson, Victoria; Branum, Corrie  
**Subject:** RE: PROGRESS ENERGY FLORIDA, INC., - CRYSTAL RIVER POWER PLANT - 0170004-018-AC-DRAFT  
**Sent:** 8/24/2007 2:20 PM

was read on 8/27/2007 2:01 PM.

## Harvey, Mary

---

**From:** Forney.Kathleen@epamail.epa.gov  
**Sent:** Friday, August 24, 2007 4:37 PM  
**To:** Harvey, Mary  
**Subject:** Re: FW: PROGRESS ENERGY FLORIDA, INC., - CRYSTAL RIVER POWER PLANT - 0170004-018-AC-DRAFT

Thanks Mary, I got it.

-----

Katy R. Forney  
Air Permits Section  
EPA - Region 4  
61 Forsyth St., SW  
Atlanta, GA 30024

Phone: 404-562-9130  
Fax: 404-562-9019

"Harvey, Mary"  
<Mary.Harvey@dep  
.state.fl.us>

08/24/2007 01:11  
PM

To  
Kathleen Forney/R4/USEPA/US@EPA  
cc  
Subject  
FW: PROGRESS ENERGY FLORIDA,  
INC., - CRYSTAL RIVER POWER PLANT  
- 0170004-018-AC-DRAFT

Katy - Draft Permit No. PSD-FL-392.

Thanks,  
Mary

From: Harvey, Mary  
Sent: Friday, August 24, 2007 11:56 AM  
To: 'Ms. Kathleen Forney, EPA Region 4'  
Subject: FW: PROGRESS ENERGY FLORIDA, INC., - CRYSTAL RIVER POWER PLANT - 0170004-018-AC-DRAFT

From: Harvey, Mary  
Sent: Friday, August 24, 2007 11:54 AM  
To: 'Mr. Bernie Cumie, Progress Energy Florida, Inc.'; 'Mr. Dave Meyer, Progress Energy Florida, Inc.'; 'Mr. Scott Osbourn, Golder Associates, Inc.'; 'Ms. Kathleen Forney, EPA Region 4'; Nasca, Mara  
Cc: Adams, Patty; Gibson, Victoria; Branum, Corrie  
Subject: PROGRESS ENERGY FLORIDA, INC., - CRYSTAL RIVER POWER PLANT - 0170004-018-AC-DRAFT



## Memorandum

## Florida Department of Environmental Protection

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TO: Trina Vielhauer, Bureau of Air Regulation  
THROUGH: Jeff Koerner, Air Permitting North Section JK  
FROM: Corrie Branum, Air Permitting North Section CB  
DATE: August 23, 2007  
SUBJECT: Draft Air Permit No. PSD-FL-392  
Project No. 0170004-018-AC  
Progress Energy Florida, Inc., Crystal River Power Plant  
South Cooling Towers Project

Attached for your review are the following items:

- Written Notice of Intent to Issue Air Permit;
- Public Notice of Intent to Issue Air Permit;
- Technical Evaluation and Preliminary Determination;
- Draft Permit; and
- P.E. Certification.

The Draft Permit authorizes Progress Energy Florida, Inc. to construct additional mechanical draft cooling towers, referred to as south cooling towers (SCT) at the Crystal River Power Plant. The additional cooling capacity is needed to support the project to uprate the capacity of existing nuclear Unit 3. The proposed work will be conducted at Crystal River Power Plant, which is located in Citrus County, Florida. The project is subject to PSD preconstruction review for PM emissions, but no air quality analysis is required because the increase in PM<sub>10</sub> emissions is less than the significant emissions rate of 15 tons/year. The Technical Evaluation and Preliminary Determination provides a detailed description of the project and the rationale for issuance. The P.E. certification briefly summarizes the proposed project. I recommend your approval of the attached Draft Permit.

Attachments

## P.E. CERTIFICATION STATEMENT

### PERMITTEE

Progress Energy Florida, Inc.  
299 First Avenue North, CN-77  
St. Petersburg, FL, 33701

Draft Permit No. PSD-FL-392  
Project No. 0170004-018-AC  
Crystal River Power Plant  
South Cooling Towers Project

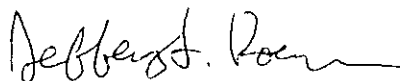
### PROJECT DESCRIPTION

The applicant, Progress Energy Florida, Inc., operates the existing Crystal River Power Plant, which is located in Citrus County north of Crystal River and west of U.S. 19. The applicant proposes to construct additional mechanical draft cooling towers, referred to as south cooling towers (SCT) at the Crystal River Power Plant. Additional cooling capacity is needed to support the project to uprate the capacity of existing nuclear Unit 3. The SCT project will help remove the incremental heat generated by the uprate. In addition, the project may replace the existing cooling towers, which are used to reduce the plant discharge water temperature from fossil fuel steam generators units 1, 2, and 3. The project authorizes up to 18 cells arranged in a preliminary nine by two configuration that would operate continuously. If the existing cooling towers are not replaced, fewer cells maybe installed.

The cooling towers provide direct contact between the cooling water and air passing through the tower. Drift is created when small amounts of cooling water become entrained in the air stream and are carried out of the tower. Particulate matter (PM) is emitted as salt and solids in the water droplets that escape as drift from the tower. Based available studies, PM<sub>10</sub> emissions will increase along with PM emissions as the concentration of total dissolved solids (TDS) increases to about 4000 ppm in the circulating water. At TDS levels greater than 4000 ppm, PM<sub>10</sub> emissions begin to decrease while PM emissions continue to increase. At higher TDS levels, the drift droplets contain more solids and therefore, upon evaporation, result in larger particles for any given initial droplet size.

The project results in an increase in PM emissions of 97.6 tons/year. The project is subject to review in accordance with Rule 62-212.400, Florida Administrative Code (F.A.C.) for the Prevention of Significant Deterioration (PSD) of Air Quality for PM emissions. Particulate matter with a mean aerodynamic diameter of 10 microns or less (PM<sub>10</sub>) are estimated to be 5.9 tons/year, which is less than the PSD significant emissions rate of 15 tons/year. Therefore, no air quality analysis is required. The preliminary determination of the Best Available Control Technology for PM and PM<sub>10</sub> emissions is the installation of drift eliminators designed to achieve a drift rate of no more than 0.0005% of the circulating water flow.

***I HEREBY CERTIFY** that the air pollution control engineering features described in the above referenced application and subject to the proposed permit conditions provide reasonable assurance of compliance with applicable provisions of Chapter 403, Florida Statutes, and Florida Administrative Code Chapters 62-4 and 62-204 through 62-297. However, I have not evaluated and I do not certify aspects of the proposal outside of my area of expertise (including, but not limited to, the electrical, mechanical, structural, hydrological, geological, and meteorological features).*



Jeffery F. Koerner, P.E.  
Registration Number: 49441

8-23-07

(Date)



# Florida Department of Environmental Protection

Bob Martinez Center  
2600 Blair Stone Road  
Tallahassee, Florida 32399-2400

Charlie Crist  
Governor

Jeff Kottkamp  
Lt. Governor

Michael W. Sole  
Secretary

August 23, 2007

Bernie Cumbie, Plant Manager  
Progress Energy Florida, Inc.  
299 First Avenue North, CN-77  
St. Petersburg, FL 33701

Re: Draft Air Permit No. PSD-FL-392  
Project No. 0170004-018-AC  
Progress Energy Florida, Inc., Crystal River Power Plant  
South Cooling Towers Project

Dear Mr. Cumbie:

On June 11, 2007, you submitted an application requesting authorization to construct additional mechanical draft cooling towers, referred to as south cooling towers (SCT) at the Crystal River Power Plant. This facility is located in Citrus County north of Crystal River, west of U.S. 19, Crystal River, Florida. Enclosed are the following documents:

- The Technical Evaluation and Preliminary Determination summarizes the Permitting Authority's technical review of the application and provides the rationale for making the preliminary determination to issue a Draft Permit.
- The proposed Draft Permit includes the specific conditions that regulate the emissions units covered by the proposed project.
- The Written Notice of Intent to Issue Air Permit provides important information regarding: the Permitting Authority's intent to issue an air permit for the proposed project; the requirements for publishing a Public Notice of the Permitting Authority's intent to issue an air permit; the procedures for submitting comments on the Draft Permit; the process for filing a petition for an administrative hearing; and the availability of mediation.
- The Public Notice of Intent to Issue Air Permit is the actual notice that you must have published in the legal advertisement section of a newspaper of general circulation in the area affected by this project.

If you have any questions, please contact the Project Engineer, Corrie Branum, at 850/921-8968.

Sincerely,

For

Trina Vielhauer, Chief  
Bureau of Air Regulation

Enclosures

## WRITTEN NOTICE OF INTENT TO ISSUE AIR PERMIT

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*In the Matter of an  
Application for Air Permit by:*

Progress Energy Florida, Inc.  
299 First Avenue North, CN-77  
St. Petersburg, FL 33701

*Authorized Representative:*  
Bernie Cumbie, Plant Manager

Draft Air Permit No. PSD-FL-392  
Project No. 0170004-018-AC  
Crystal River Power Plant  
South Cooling Towers Project  
Citrus County, Florida

**Facility Location:** Progress Energy Florida, Inc. operates the existing Crystal River Power Plant, which is located in Citrus County north of Crystal River, west of U.S. 19 in Crystal River, Florida.

**Project:** Progress Energy Florida, Inc. proposes to construct additional mechanical draft cooling towers, referred to as south cooling towers (SCT) at the Crystal River Power Plant. Additional cooling capacity is needed to support the project to uprate the capacity of existing nuclear Unit 3. Progress Energy plans to install the SCT to help remove the incremental heat generated by the uprate. In addition, the project may replace the existing cooling towers, which are used to reduce the plant discharge water temperature from fossil fuel steam generators units 1, 2, and 3. The project authorizes up to 18 cells arranged in a preliminary nine by two configuration that would operate continuously. If the existing cooling towers are not replaced, fewer cells may be installed.

The cooling towers provide direct contact between the cooling water and air passing through the tower. Drift is created when small amounts of cooling water become entrained in the air stream and are carried out of the tower. Particulate matter (PM) is emitted as salt in the water droplets that escape as drift from the tower. The project results in an increase in PM emissions of 97.6 tons/year. The project is subject to review in accordance with Rule 62-212.400, Florida Administration Code (F.A.C.) for the Prevention of Significant Deterioration (PSD) of Air Quality for PM emissions. Particulate matter with a mean aerodynamic diameter of 10 microns or less (PM<sub>10</sub>) will be less than the PSD significant emissions rate. Therefore, no air quality analysis is required. Drift eliminators is the control technology used to control PM and PM<sub>10</sub> emissions caused by the cooling tower drift.

Details of the project are provided in the application and the enclosed Technical Evaluation and Preliminary Determination.

**Permitting Authority:** Applications for air construction permits are subject to review in accordance with the provisions of Chapter 403, Florida Statutes (F.S.) and F.A.C Chapters 62-4, 62-210, and 62-212. The proposed project is not exempt from air permitting requirements and an air permit is required to perform the proposed work. The Bureau of Air Regulation is the Permitting Authority responsible for making a permit determination for this project. The Permitting Authority's physical address is: 111 South Magnolia Drive, Suite #4, Tallahassee, Florida. The Permitting Authority's mailing address is: 2600 Blair Stone Road, MS #5505, Tallahassee, Florida 32399-2400. The Permitting Authority's telephone number is 850/488-0114.

**Project File:** A complete project file is available for public inspection during the normal business hours of 8:00 a.m. to 5:00 p.m., Monday through Friday (except legal holidays), at address indicated above for the Permitting Authority. The complete project file includes the Draft Permit, the Technical Evaluation and Preliminary Determination, the application, and the information submitted by the applicant, exclusive of confidential records under Section 403.111, F.S. Interested persons may contact the Permitting Authority's project review engineer for additional information at the address or phone number listed above.

**Notice of Intent to Issue Permit:** The Permitting Authority gives notice of its intent to issue an air permit to the applicant for the project described above. The applicant has provided reasonable assurance

## WRITTEN NOTICE OF INTENT TO ISSUE AIR PERMIT

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that operation of the proposed equipment will not adversely impact air quality and that the project will comply with all appropriate provisions of Chapters 62-4, 62-204, 62-210, 62-212, 62-296, and 62-297, F.A.C. The Permitting Authority will issue a Final Permit in accordance with the conditions of the proposed Draft Permit unless a timely petition for an administrative hearing is filed under Sections 120.569 and 120.57, F.S. or unless public comment received in accordance with this notice results in a different decision or a significant change of terms or conditions.

**Public Notice:** Pursuant to Section 403.815, F.S. and Rules 62-110.106 and 62-210.350, F.A.C., you (the applicant) are required to publish at your own expense the enclosed Public Notice of Intent to Issue Air Permit (Public Notice). The Public Notice shall be published one time only as soon as possible in the legal advertisement section of a newspaper of general circulation in the area affected by this project. The newspaper used must meet the requirements of Sections 50.011 and 50.031, F.S. in the county where the activity is to take place. If you are uncertain that a newspaper meets these requirements, please contact the Permitting Authority at above address or phone number. Pursuant to Rule 62-110.106(5) and (9), F.A.C., the applicant shall provide proof of publication to the Permitting Authority at the above address within 7 days of publication. Failure to publish the notice and provide proof of publication may result in the denial of the permit pursuant to Rule 62-110.106(11), F.A.C.

**Comments:** The Permitting Authority will accept written comments concerning the Draft Permit for a period of 30 days from the date of publication of the Public Notice. Written comments must be post-marked by the close of business (5:00 p.m.), on or before the end of this 30-day period by the Permitting Authority at the above address. As part of his or her comments, any person may also request that the Permitting Authority hold a public meeting on this permitting action. If the Permitting Authority determines there is sufficient interest for a public meeting, it will publish notice of the time, date, and location in the Florida Administrative Weekly and in a newspaper of general circulation in the area affected by the permitting action. For additional information, contact the Permitting Authority at the above address or phone number. If written comments or comments received at a public meeting result in a significant change to the Draft Permit, the Permitting Authority will issue a revised Draft Permit and require, if applicable, another Public Notice. All comments filed will be made available for public inspection.

**Petitions:** A person whose substantial interests are affected by the proposed permitting decision may petition for an administrative hearing in accordance with Sections 120.569 and 120.57, F.S. The petition must contain the information set forth below and must be filed with (received by) the Department's Agency Clerk in the Office of General Counsel of the Department of Environmental Protection, 3900 Commonwealth Boulevard, Mail Station #35, Tallahassee, Florida 32399-3000. Petitions filed by the applicant or any of the parties listed below must be filed within 14 days of receipt of this Written Notice of Intent to Issue Air Permit. Petitions filed by any persons other than those entitled to written notice under Section 120.60(3), F.S., must be filed within 14 days of publication of the attached Public Notice or within 14 days of receipt of this Written Notice of Intent to Issue Air Permit, whichever occurs first. Under Section 120.60(3), F.S., however, any person who asked the Permitting Authority for notice of agency action may file a petition within 14 days of receipt of that notice, regardless of the date of publication. A petitioner shall mail a copy of the petition to the applicant at the address indicated above, at the time of filing. The failure of any person to file a petition within the appropriate time period shall constitute a waiver of that person's right to request an administrative determination (hearing) under Sections 120.569 and 120.57, F.S., or to intervene in this proceeding and participate as a party to it. Any subsequent intervention (in a proceeding initiated by another party) will be only at the approval of the presiding officer upon the filing of a motion in compliance with Rule 28-106.205, F.A.C.

A petition that disputes the material facts on which the Permitting Authority's action is based must contain the following information: (a) The name and address of each agency affected and each agency's

## WRITTEN NOTICE OF INTENT TO ISSUE AIR PERMIT

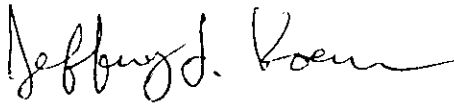
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file or identification number, if known; (b) The name, address, and telephone number of the petitioner; the name, address and telephone number of the petitioner's representative, if any, which shall be the address for service purposes during the course of the proceeding; and an explanation of how the petitioner's substantial interests will be affected by the agency determination; (c) A statement of when and how each petitioner received notice of the agency action or proposed decision; (d) A statement of all disputed issues of material fact. If there are none, the petition must so state; (e) A concise statement of the ultimate facts alleged, including the specific facts the petitioner contends warrant reversal or modification of the agency's proposed action; (f) A statement of the specific rules or statutes the petitioner contends require reversal or modification of the agency's proposed action including an explanation of how the alleged facts relate to the specific rules or statutes; and, (g) A statement of the relief sought by the petitioner, stating precisely the action the petitioner wishes the agency to take with respect to the agency's proposed action. A petition that does not dispute the material facts upon which the Permitting Authority's action is based shall state that no such facts are in dispute and otherwise shall contain the same information as set forth above, as required by Rule 28-106.301, F.A.C.

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

**Mediation:** Mediation is not available in this proceeding.

Executed in Tallahassee, Florida.

*For*   
\_\_\_\_\_  
Trina Vielhauer, Chief  
Bureau of Air Regulation

**WRITTEN NOTICE OF INTENT TO ISSUE AIR PERMIT**

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**CERTIFICATE OF SERVICE**

The undersigned duly designated deputy agency clerk hereby certifies that this Written Notice of Intent to Issue Air Permit package (including the Public Notice, the Technical Evaluation and Preliminary Determination, and the Draft Permit) was sent by electronic mail with received receipt requested before the close of business on 8/24/07 to the persons listed below.

Mr. Bernie Cumie, Progress Energy Florida, Inc. ([bernie.cumbie@pgnmail.com](mailto:bernie.cumbie@pgnmail.com))

Mr. Dave Meyer, Progress Energy Florida, Inc. ([dave.meyer@pgnmail.com](mailto:dave.meyer@pgnmail.com))

Mr. Scott Osbourn, Golder Associates, Inc. ([sosbourn@golder.com](mailto:sosbourn@golder.com))

Ms. Kathleen Forney, EPA Region 4 ([Forney.Kathleen@epa.gov](mailto:Forney.Kathleen@epa.gov))

Ms. Mara Nasca, SWD Office ([Mara.Nasca@dep.state.fl.us](mailto:Mara.Nasca@dep.state.fl.us))

Clerk Stamp

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

Mary L. Harvey  
(Clerk)

8/24/07  
(Date)

## PUBLIC NOTICE OF INTENT TO ISSUE AIR PERMIT

Florida Department of Environmental Protection  
Division of Air Resource Management, Bureau of Air Regulation  
Draft Permit No. PSD-FL-392  
Project No. 0170004-018-AC  
Progress Energy Florida, Inc., Crystal River Power Plant  
Citrus County, Florida

**Applicant:** The applicant for this project is Progress Energy Florida, Inc. The applicant's authorized representative and mailing address is: Bernie Cumbie, Plant Manager, Progress Energy Florida, Inc., Crystal River Power Plant, 299 First Avenue North, CN-77, St. Petersburg, FL, 33701.

**Facility Location:** Progress Energy Florida, Inc. operates the existing Crystal River Power Plant, which is located in Citrus County north of Crystal River, west of U.S. 19 in Crystal River, Florida. The UTM coordinates are Zone 17, 334.3 km east and 3204.5 km north.

**Project:** Progress Energy Florida, Inc. proposes to construct additional mechanical draft cooling towers, referred to as south cooling towers (SCT) at the Crystal River Power Plant. Additional cooling capacity is needed to support the project to uprate the capacity of existing nuclear Unit 3. Progress Energy plans to install the SCT to help remove the incremental heat generated by the uprate. In addition, the project may replace the existing cooling towers, which are used to reduce the plant discharge water temperature from fossil fuel steam generators units 1, 2, and 3. The project authorizes up to 18 cells arranged in a preliminary nine by two configuration that would operate continuously. If the existing cooling towers are not replaced, fewer cells may be installed.

The cooling towers provide direct contact between the cooling water and air passing through the tower. Drift is created when small amounts of cooling water become entrained in the air stream and are carried out of the tower. Particulate matter (PM) is emitted as salt in the water droplets that escape as drift from the tower. The project results in an increase in PM emissions of 97.6 tons/year. The project is subject to review in accordance with Rule 62-212.400, Florida Administrative Code (F.A.C.) for the Prevention of Significant Deterioration (PSD) of Air Quality for PM emissions. Particulate matter with a mean aerodynamic diameter of 10 microns or less (PM<sub>10</sub>) will be less than the PSD significant emissions rate. Therefore, no air quality analysis is required. Drift eliminators is the control technology used to control PM and PM<sub>10</sub> emissions caused by the cooling tower drift.

**Permitting Authority:** Applications for air construction permits are subject to review in accordance with the provisions of Chapter 403, Florida Statutes (F.S.) and F.A.C. Chapters 62-4, 62-210, and 62-212. The proposed project is not exempt from air permitting requirements and an air permit is required to perform the proposed work. The Bureau of Air Regulation is the Permitting Authority responsible for making a permit determination for this project. The Permitting Authority's physical address is: 111 South Magnolia Drive, Suite #4, Tallahassee, Florida. The Permitting Authority's mailing address is: 2600 Blair Stone Road, MS #5505, Tallahassee, Florida 32399-2400. The Permitting Authority's telephone number is 850/488-0114.

**Project File:** A complete project file is available for public inspection during the normal business hours of 8:00 a.m. to 5:00 p.m., Monday through Friday (except legal holidays), at address indicated above for the Permitting Authority. The complete project file includes the Draft Permit, the Technical Evaluation and Preliminary Determination, the application, and the information submitted by the applicant, exclusive of confidential records under Section 403.111, F.S. Interested persons may contact the Permitting Authority's project review engineer for additional information at the address and phone number listed above. In addition, electronic copies of these documents are available on the following web site:  
<http://www.dep.state.fl.us/air/eproducts/apds/default.asp>.

**Notice of Intent to Issue Air Permit:** The Permitting Authority gives notice of its intent to issue an air permit to the applicant for the project described above. The applicant has provided reasonable assurance that operation of proposed equipment will not adversely impact air quality and that the project will comply with all

(Public Notice to be Published in the Newspaper)



## PUBLIC NOTICE OF INTENT TO ISSUE AIR PERMIT

appropriate provisions of Chapters 62-4, 62-204, 62-210, 62-212, 62-296, and 62-297, F.A.C. The Permitting Authority will issue a Final Permit in accordance with the conditions of the proposed Draft Permit unless a timely petition for an administrative hearing is filed under Sections 120.569 and 120.57, F.S. or unless public comment received in accordance with this notice results in a different decision or a significant change of terms or conditions.

**Comments:** The Permitting Authority will accept written comments concerning the Draft Permit for a period of 30 days from the date of publication of the Public Notice. Written comments must be post-marked by the close of business (5:00 p.m.), on or before the end of this 30-day period by the Permitting Authority at the above address. As part of his or her comments, any person may also request that the Permitting Authority hold a public meeting on this permitting action. If the Permitting Authority determines there is sufficient interest for a public meeting, it will publish notice of the time, date, and location in the Florida Administrative Weekly and in a newspaper of general circulation in the area affected by the permitting action. For additional information, contact the Permitting Authority at the above address or phone number. If written comments or comments received at a public meeting result in a significant change to the Draft Permit, the Permitting Authority will issue a revised Draft Permit and require, if applicable, another Public Notice. All comments filed will be made available for public inspection.

**Petitions:** A person whose substantial interests are affected by the proposed permitting decision may petition for an administrative hearing in accordance with Sections 120.569 and 120.57, F.S. The petition must contain the information set forth below and must be filed with (received by) the Department's Agency Clerk in the Office of General Counsel of the Department of Environmental Protection at 3900 Commonwealth Boulevard, Mail Station #35, Tallahassee, Florida 32399-3000. Petitions filed by any persons other than those entitled to written notice under Section 120.60(3), F.S. must be filed within 14 days of publication of this Public Notice or receipt of a written notice, whichever occurs first. Under Section 120.60(3), F.S., however, any person who asked the Permitting Authority for notice of agency action may file a petition within 14 days of receipt of that notice, regardless of the date of publication. A petitioner shall mail a copy of the petition to the applicant at the address indicated above, at the time of filing. The failure of any person to file a petition within the appropriate time period shall constitute a waiver of that person's right to request an administrative determination (hearing) under Sections 120.569 and 120.57, F.S., or to intervene in this proceeding and participate as a party to it. Any subsequent intervention (in a proceeding initiated by another party) will be only at the approval of the presiding officer upon the filing of a motion in compliance with Rule 28-106.205, F.A.C.

A petition that disputes the material facts on which the Permitting Authority's action is based must contain the following information: (a) The name and address of each agency affected and each agency's file or identification number, if known; (b) The name, address and telephone number of the petitioner; the name address and telephone number of the petitioner's representative, if any, which shall be the address for service purposes during the course of the proceeding; and an explanation of how the petitioner's substantial rights will be affected by the agency determination; (c) A statement of when and how the petitioner received notice of the agency action or proposed decision; (d) A statement of all disputed issues of material fact. If there are none, the petition must so state; (e) A concise statement of the ultimate facts alleged, including the specific facts the petitioner contends warrant reversal or modification of the agency's proposed action; (f) A statement of the specific rules or statutes the petitioner contends require reversal or modification of the agency's proposed action including an explanation of how the alleged facts relate to the specific rules or statutes; and, (g) A statement of the relief sought by the petitioner, stating precisely the action the petitioner wishes the agency to take with respect to the agency's proposed action. A petition that does not dispute the material facts upon which the Permitting Authority's action is based shall state that no such facts are in dispute and otherwise shall contain the same information as set forth above, as required by Rule 28-106.301, F.A.C.

Because the administrative hearing process is designed to formulate final agency action, the filing of a petition means that the Permitting Authority's final action may be different from the position taken by it in this Public Notice of Intent to Issue Air Permit. Persons whose substantial interests will be affected by any such final decision of the Permitting Authority on the application have the right to petition to become a party to the

**PUBLIC NOTICE OF INTENT TO ISSUE AIR PERMIT**

proceeding, in accordance with the requirements set forth above.

**Mediation:** Mediation is not available for this proceeding.

**(Public Notice to be Published in the Newspaper)**

**TECHNICAL EVALUATION  
&  
PRELIMINARY DETERMINATION**

**PROJECT**

Draft Air Construction Permit No. PSD-FL-392  
Project No. 0170004-018-AC  
South Cooling Towers

**COUNTY**

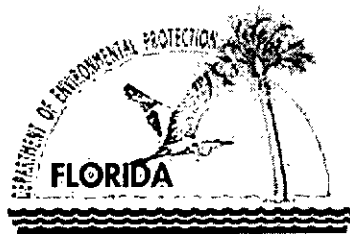
Citrus

**APPLICANT**

Progress Energy Florida, Inc.  
Crystal River Power Plant  
ARMS Facility ID No. 0170004

**PERMITTING  
AUTHORITY**

Florida Department of Environmental Protection  
Division of Air Resource Management  
Bureau of Air Regulation  
Air Permitting North Section



August 23, 2007

**1. GENERAL PROJECT INFORMATION****Applicant Name and Address**

Progress Energy Florida, Inc.  
Crystal River Power Plant  
North of Crystal River, West of U.S. 19  
Crystal River, FL 34428

**Facility Description and Location**

Progress Energy Florida, Inc. operates an existing electrical generating power plant (SIC No. 4911) located in Citrus County north of Crystal River, west of U.S. 19 in Crystal River, Florida. The UTM coordinates are Zone 17, 334.2 km east and 3204.5 km north. The facility consists of the following: four coal-fired fossil fuel steam generating units with electrostatic precipitators; two natural draft cooling towers; two sets of mechanical draft cooling towers (one set of "helper" cooling towers and a second set of "modular" cooling towers); Nuclear Unit 3; coal and ash material handling facilities; and relocatable diesel fired generators.

**Regulatory Categories**

The facility is a major source of hazardous air pollutants.

The facility operates units subject to the acid rain provisions of the Clean Air Act.

The facility is a Title V major source of air pollution in accordance with Chapter 213, Florida Administrative Code, (F.A.C.).

The facility is a major stationary source in accordance with Rule 62-212.400, F.A.C. for the Prevention of Significant Deterioration (PSD) of Air Quality.

**Project Description**

On June 11, 2007, the Department received an application from Progress Energy for the Crystal River Power Plant for the construction of additional mechanical draft cooling towers referred to as south cooling towers (SCT). Additional cooling capacity is needed to support the project to uprate the capacity of existing nuclear Unit 3. An uprate of 40 MW will be added during the 2009 refueling outage from equipment modifications and an additional 140 MW will be added during the 2011 refueling outage from upgrades to the reactor.

Currently, Progress Energy plans to install the SCT to help remove the incremental heat generated by the uprate. However, they are also considering replacing the existing cooling towers (EU-013) with new equipment as part of the SCT project. This would require 11 additional cells to replace the existing cooling towers (EU-013), six cells to dissipate the incremental heat from the uprate project, and an additional cell to provide a factor of safety for the worst-case scenario. The total design would be 18 cells arranged in a nine by two configuration that would operate continuously. The cooling flow rate for all eighteen cells is estimated at 342,306 gallons per minute and the design air flow rate per cell is estimated at 1,500,000 acfm.

The cooling towers provide direct contact between the cooling water and air passing through the tower. Drift is created when small amounts of cooling water become entrained in the air stream and are carried out of the tower. Salt and solids in the water droplets are emitted as particulate matter (PM) that escapes as drift from the tower. Drift eliminators is the control technology used to control PM emissions caused by the cooling tower drift.

**2. APPLICABLE REGULATIONS****State Regulations**

This project is subject to the applicable rules and regulations defined in the following Chapters F.A.C.: 62-4 (Permitting Requirements); 62-204 (Ambient Air Quality Requirements, PSD Increments, and Federal Regulations Adopted by Reference); 62-210 (Permits Required, Public Notice, Reports, Stack Height Policy, Circumvention, Excess Emissions, and Forms); 62-212 (Preconstruction Review, PSD Review and BACT, and Non-attainment Area Review and LAER); 62-213 (Title V Air Operation Permits for Major Sources of Air Pollution); 62-296 (Emission Limiting Standards); 62-297 (Test Methods and Procedures, Continuous Monitoring Specifications, and Alternate Sampling Procedures).

**General PSD Applicability**

A PSD preconstruction review is required in areas currently in attainment with the state and federal Ambient Air Quality Standards (AAQS) or areas designated as "unclassifiable" for a given pollutant. A new facility is considered "major" with respect to PSD if it emits or has the potential to emit: 250 tons per year or more of any regulated air pollutant; or 100 tons per year or more of any

## TECHNICAL EVALUATION AND PRELIMINARY DETERMINATION

regulated air pollutant and the facility belongs to one of the 28 PSD Major Facility Categories defined in Rule 62-210.200, F.A.C.; or 5 tons per year of lead.

For new projects at existing PSD major stationary sources, each regulated pollutant is reviewed for PSD applicability based on emissions thresholds known as the significant emission rates defined in Rule 62-210.200, F.A.C. Pollutant emissions from the project exceeding these rates are considered "significant" and the applicant must employ the Best Available Control Technology (BACT) to minimize emissions of each such pollutant and evaluate the air quality impacts. Although a facility may be "major" with respect to PSD for only one regulated pollutant, it may be required to install BACT controls for several "significant" regulated pollutants.

### PSD Applicability for Project

The Crystal River Power Plant is an existing PSD major stationary source located in Citrus County, which is in an area that is currently in attainment with the state and federal AAQS or otherwise designated as unclassifiable. The applicant proposes to construct and operate mechanical draft cooling towers to support the project to uprate nuclear Unit 3. The cooling towers will emit PM as a result of the carry over of solids in the water droplet drift. The PM emissions include particles with a mean diameter of 10 microns or less (PM<sub>10</sub>) as well as 2.5 microns or less (PM<sub>2.5</sub>).

Particulate Matter will be controlled by drift rate design specifications, which serves as a surrogate to control PM<sub>10</sub> and PM<sub>2.5</sub>. Based on the application, future PM emissions are estimated to be 97.6 tons/year based on 8760 hours per year. Because PM emissions will exceed 25 tons per year, a PSD review for this project is required. PM<sub>10</sub> emissions are estimated to be only 5.9 tons per year. The calculation is based upon the study, "Calculating Realistic PM<sub>10</sub> Emissions from Cooling Towers" by Joel Reisman and Gordon Frisbie. Based on the study, the authors of the paper contend that PM<sub>10</sub> emissions increase with PM as the concentration of total dissolved solids (TDS) increases to about 4000 ppm. At TDS levels greater than 4000 ppm, the amount of PM<sub>10</sub> sized particles will decrease while PM continues to increase. The paper states that at higher TDS, the drift droplets contain more solids and therefore, upon evaporation, result in larger particles for any given initial droplet size.

Table 1 provides a graph of the correlation of PM and PM<sub>10</sub> as a function of TDS in the circulating water. With the estimated TDS of 25,307 ppm for the new cooling towers and a circulating flow rate of 342,306 gallons per minute, the report suggests large PM emissions with minimal PM<sub>10</sub> emissions as indicated in the application. The estimated PM<sub>10</sub> emissions do not exceed the significant emission rate for PM<sub>10</sub> of 15 tons/year. Therefore, a BACT determination is required for PM, but no air quality analysis is required because the increase in PM<sub>10</sub> emissions is less than the PSD significant emissions rate.

### BACT Determination

To minimize PM emissions from the cooling towers, the applicant proposed a design drift rate for the equipment of 0.0005%. The Department conducted a review of EPA's RACT/BACT/LAER Clearinghouse for mechanical draft cooling towers between 2003 and 2006. Based upon the review, the Department concludes that BACT for mechanical draft cooling towers is based upon drift eliminators. BACT has been established as low as 0.0005% drift rate. The Department agrees with the applicant and the preliminary BACT is a design drift rate of 0.0005% for the new cooling tower.

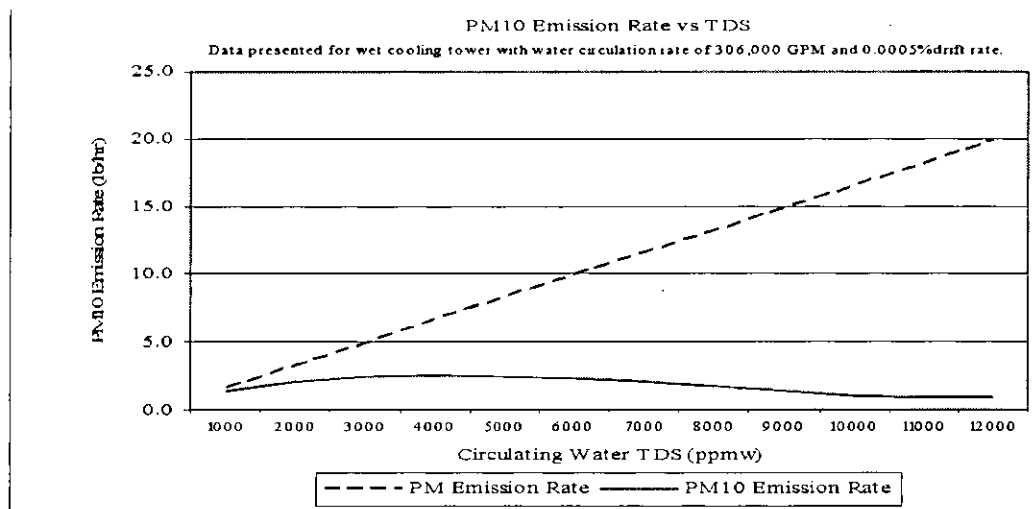


Table 1- PM and PM<sub>10</sub> Emission Rates vs. TDS

## TECHNICAL EVALUATION AND PRELIMINARY DETERMINATION

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### 3. PERMIT CONDITIONS

The draft permit will include the following primary conditions:

Cooling Towers: The permittee is authorized to construct and operate new mechanical draft cooling towers with the following nominal design characteristics: a circulating flow rate of approximately 342,306 gallons per minute (19,017 gpm per cell); a design air flow of approximately 1,500,000 acfm per cell; and drift eliminators designed for a drift rate of no more than 0.0005% of the circulating water flow for each tower. [Application No. 0170004-018-AC and Design]

Hours of Operation: The new cooling towers may operate continuously (8760 hours per calendar year). [Application No. 0170004-018-AC]

Cooling Tower Design: The cooling towers shall be designed and maintained to achieve a drift rate of no more than 0.0005% of the circulating water flow. [Application 0170004-018-AC and Design]

Drift Rate: Within 60 days of commencing operation, the permittee shall notify the compliance authority that the cooling towers were constructed and installed to achieve the specific drift rate of no more than 0.0005% of the circulating flow rate and of the final configuration. [Application 0170004-018-AC and Design]

Circulating Water Flow Rate: Upon request, the applicant shall provide a means for determining the circulating water flow rate through the new cooling tower. [Rule 62-4.070, F.A.C.]

Emissions Report: PM and PM<sub>10</sub> emissions shall be reported as part of the annual operating report.

### 4. PRELIMINARY DETERMINATION

The Department makes a preliminary determination that the proposed project will comply with all applicable state and federal air pollution regulations as conditioned by the draft permit. This determination is based on a technical review of the complete application, reasonable assurances provided by the applicant, and the conditions specified in the draft permit. No air quality modeling analysis is required because the project does not result in a significant increase in the PM<sub>10</sub> emissions. Corrie Branum is the project engineer responsible for reviewing the application and drafting the permit. Additional details of this analysis may be obtained by contacting the project engineer at the Department's Bureau of Air Regulation at Mail Station #5505, 2600 Blair Stone Road, Tallahassee, Florida 32399-2400.

# DRAFT PERMIT

## PERMITTEE

Progress Energy Florida, Inc.  
299 First Avenue North, CN-77  
St. Petersburg, FL 33701

Authorized Representative:  
Bernie Cumbie, Plant Manager

Permit No. PSD-FL-392 Project No. 0170004-018-AC Permit Expires: January 1, 2013 Crystal River Power Plant ARMS ID No. 0170004 South Cooling Towers Project
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## PROJECT AND LOCATION

This permit authorizes Progress Energy to construct additional mechanical draft cooling towers, referred to as south cooling towers (SCT) at the Crystal River Power Plant. The proposed work will be conducted at the Crystal River Power Plant, which is an existing electrical generating power plant (SIC No. 4911). The facility is located in Citrus County north of Crystal River, west of U.S. 19 in Crystal River, Florida. The UTM coordinates are Zone 17, 334.2 km east and 3204.5 km north.

## STATEMENT OF BASIS

This air pollution construction permit is issued under the provisions of Chapter 403 of the Florida Statutes (F.S.), and Chapters 62-4, 62-204, 62-210, 62-212, 62-296, and 62-297 of the Florida Administrative Code (F.A.C.). The project is subject to preconstruction review in accordance with Rule 62-212.400, F.A.C. for the Prevention of Significant Deterioration (PSD). The permittee is authorized to conduct the proposed work in accordance with the conditions of this permit and as described in the application, approved drawings, plans, and other documents on file with the Department.

## CONTENTS

- Section 1. General Information
- Section 2. Administrative Requirements
- Section 3. Emissions Unit Specific Conditions
- Section 4. Appendices

Executed in Tallahassee, Florida

(DRAFT)

\_\_\_\_\_  
Joseph Kahn, Director  
Division of Air Resource Management

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

## **FACILITY AND PROJECT DESCRIPTION**

This project authorizes Progress Energy Florida, Inc. to construct additional mechanical draft cooling towers referred to as south cooling towers (SCT) for the Crystal River Power Plant. Additional cooling capacity is needed to support the project to uprate the capacity of existing nuclear Unit 3. An uprate of 40 MW will be added during the 2009 refueling outage from equipment modifications and an additional 140 MW will be added during the 2011 refueling outage from upgrades to the reactor. Progress Energy plans to install the SCT to help remove the incremental heat generated by the uprate. In addition, the project may replace the existing cooling towers (EU-013). The project authorizes up to 18 cells arranged in a preliminary nine by two configuration that would operate continuously. The cooling flow rate for all eighteen cells is estimated at 342,306 gallons per minute and the design air flow rate per cell is estimated at 1,500,000 acfm. If the existing cooling towers (EU-013) are not replaced, fewer cells may be installed.

The cooling towers provide direct contact between the cooling water and air passing through the tower. Drift is created when small amounts of cooling water become entrained in the air stream and are carried out of the tower. Particulate matter (PM) is emitted as salt and solids in the water droplets that escape as drift from the tower. Drift eliminators is the control technology used to control PM emissions caused by the cooling tower drift.

## **REGULATORY CLASSIFICATION**

- The facility is a major source of hazardous air pollutants (HAP).
- The facility has units subject to the acid rain provisions of the Clean Air Act.
- The facility is a Title V major source of air pollution in accordance with Chapter 213, F.A.C.
- The facility is a major stationary source in accordance with Rule 62-212.400 (PSD), F.A.C.



## SECTION 2. ADMINISTRATIVE REQUIREMENTS (DRAFT)

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1. Permitting Authority: The permitting authority for this project is the Bureau of Air Regulation, Division of Air Resource Management, Florida Department of Environmental Protection (DEP). The Bureau of Air Regulation's mailing address is 2600 Blair Stone Road (MS #5505), Tallahassee, Florida 32399-2400. All documents related to applications for permits to operate an emissions unit shall be submitted to the Southwest District Branch Office.
2. Compliance Authority: All documents related to compliance activities such as reports, tests, and notifications shall be submitted to the Southwest District Office. The mailing address and phone number of the Southwest District Office is: 13051 N. Telecom Parkway, Temple Terrace, Florida 33637-0926 and Phone number (813) 632-7600.
3. Appendices: The following Appendices are attached as part of this permit: Appendix A (Citation Format); Appendix B (General Conditions); and Appendix C (Standard Conditions).
4. Applicable Regulations, Forms and Application Procedures: Unless otherwise specified in this permit, the construction and operation of the subject emissions units shall be in accordance with the capacities and specifications stated in the application and current Title V air operation permit. The facility is subject to all applicable provisions of: Chapter 403, F.S.; and Chapters 62-4, 62-204, 62-210, 62-212, 62-213, 62-296, and 62-297, F.A.C. Issuance of this permit does not relieve the permittee from compliance with any applicable federal, state, or local permitting or regulations.
5. New or Additional Conditions: For good cause shown and after notice and an administrative hearing, if requested, the Department may require the permittee to conform to new or additional conditions. The Department shall allow the permittee a reasonable time to conform to the new or additional conditions, and on application of the permittee, the Department may grant additional time. [Rule 62-4.080, F.A.C.]
6. Modifications: The permittee shall notify the Compliance Authority upon commencement of construction. No emissions unit or facility subject to this permit shall be constructed or modified without obtaining an air construction permit from the Department. Such permit shall be obtained prior to beginning construction or modification. [Rules 62-210.300(1) and 62-212.300(1)(a), F.A.C.]
7. Title V Permit: This permit authorizes construction of the permitted emissions units and initial operation to determine compliance with Department rules. A Title V operation permit is required for regular operation of the permitted emissions unit. The permittee shall apply for a Title V operation permit at least 90 days prior to expiration of this permit, but no later than 180 days after commencing operation. To apply for a Title V operation permit, the applicant shall submit the appropriate application form, compliance test results, and such additional information as the Department may by law require. The application shall be submitted to the appropriate Permitting Authority with copies to the Compliance Authority. [Rules 62-4.030, 62-4.050, 62-4.220, and Chapter 62-213, F.A.C.]

### SECTION 3. EMISSIONS UNIT SPECIFIC CONDITIONS (DRAFT)

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This section of the permit addresses the following emissions unit.

ID	Emission Unit Description
027	South Cooling Towers: mechanical draft helper cooling towers with maximum water circulation rate of 342,306 gpm.

1. Cooling Towers: The permittee is authorized to construct and operate new mechanical draft cooling towers with up to 18 cells and the following nominal design characteristics: a circulating flow rate of 342,306 gallons per minute (19,017 gpm per cell); a design air flow of 1,500,000 acfm per cell; and drift eliminators designed for a drift rate of no more than 0.0005% of the circulating water flow for each tower. [Application No. 0170004-018-AC and Design]
2. Hours of Operation: The new cooling towers may operate continuously (8760 hours per calendar year). [Application No. 0170004-018-AC]
3. Cooling Tower Design: The cooling towers shall be designed and maintained to achieve a drift rate of no more than 0.0005% of the circulating water flow. [Application No. 0170004-018-AC and Design]
4. Drift Rate: Within 60 days of commencing operation, the permittee shall notify the compliance authority that the cooling towers were constructed and installed to achieve the specific drift rate of no more than 0.0005% of the circulating flow rate and of the final configuration. In addition, the permittee shall indicate the final configuration as installed and whether the existing cooling towers (EU-013) were replaced. [Application 0170004-018-AC and Design]
5. Circulating Water Flow Rate: Upon request, the applicant shall provide a means for determining the circulating water flow rate through the new cooling tower. [Rule 62-4.070, F.A.C.]
6. Emissions Report: PM and PM<sub>10</sub> emissions shall be reported as part of the annual operating report. [Rule 62-210.370(3), F.A.C.]

## SECTION 4. APPENDICES

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Appendix A. Citation Formats

Appendix B. General Conditions

Appendix C. Common Conditions

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**SECTION 4. APPENDIX A**  
**CITATION FORMATS**

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**CITATION FORMATS**

The following illustrate the formats used in the permit to identify applicable requirements from permits and regulations.

**Old Permit Numbers**

Example: Permit No. AC50-123456 or Permit No. AO50-123456

Where: "AC" identifies the permit as an Air Construction Permit  
"AO" identifies the permit as an Air Operation Permit  
"123456" identifies the specific permit project number

**New Permit Numbers**

Example: Permit Nos. 099-2222-001-AC, 099-2222-001-AF, 099-2222-001-AO, or 099-2222-001-AV

Where: "099" represents the specific county ID number in which the project is located  
"2222" represents the specific facility ID number for that county  
"001" identifies the specific permit project number  
"AC" identifies the permit as an air construction permit  
"AF" identifies the permit as a minor source federally enforceable state operation permit  
"AO" identifies the permit as a minor source air operation permit  
"AV" identifies the permit as a major Title V air operation permit

**PSD Permit Numbers**

Example: Permit No. PSD-FL-317

Where: "PSD" means issued pursuant to the preconstruction review requirements of the Prevention of Significant Deterioration of Air Quality  
"FL" means that the permit was issued by the State of Florida  
"317" identifies the specific permit project number

**Florida Administrative Code (F.A.C.)**

Example: [Rule 62-213.205, F.A.C.]

Means: Title 62, Chapter 213, Rule 205 of the Florida Administrative Code

**Code of Federal Regulations (CFR)**

Example: [40 CFR 60.7]

Means: Title 40, Part 60, Section 7

**SECTION 4. APPENDIX B**  
**GENERAL CONDITIONS**

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The permittee shall comply with the following general conditions from Rule 62-4.160, F.A.C.

1. The terms, conditions, requirements, limitations, and restrictions set forth in this permit are "Permit Conditions" and are binding and enforceable pursuant to Sections 403.161, 403.727, or 403.859 through 403.861, F.S. The permittee is placed on notice that the Department will review this permit periodically and may initiate enforcement action for any violation of these conditions.
2. This permit is valid only for the specific processes and operations applied for and indicated in the approved drawings or exhibits. Any unauthorized deviation from the approved drawings, exhibits, specifications, or conditions of this permit may constitute grounds for revocation and enforcement action by the Department.
3. As provided in Subsections 403.087(6) and 403.722(5), F.S., the issuance of this permit does not convey and vested rights or any exclusive privileges. Neither does it authorize any injury to public or private property or any invasion of personal rights, nor any infringement of federal, state or local laws or regulations. This permit is not a waiver or approval of any other Department permit that may be required for other aspects of the total project which are not addressed in the permit.
4. This permit conveys no title to land or water, does not constitute State recognition or acknowledgment of title, and does not constitute authority for the use of submerged lands unless herein provided and the necessary title or leasehold interests have been obtained from the State. Only the Trustees of the Internal Improvement Trust Fund may express State opinion as to title.
5. This permit does not relieve the permittee from liability for harm or injury to human health or welfare, animal, or plant life, or property caused by the construction or operation of this permitted source, or from penalties therefore; nor does it allow the permittee to cause pollution in contravention of F.S. and Department rules, unless specifically authorized by an order from the Department.
6. The permittee shall properly operate and maintain the facility and systems of treatment and control (and related appurtenances) that are installed or used by the permittee to achieve compliance with the conditions of this permit, as required by Department rules. This provision includes the operation of backup or auxiliary facilities or similar systems when necessary to achieve compliance with the conditions of the permit and when required by Department rules.
7. The permittee, by accepting this permit, specifically agrees to allow authorized Department personnel, upon presentation of credentials or other documents as may be required by law and at a reasonable time, access to the premises, where the permitted activity is located or conducted to:
  - a. Have access to and copy records that must be kept under the conditions of the permit;
  - b. Inspect the facility, equipment, practices, or operations regulated or required under this permit, and,
  - c. Sample or monitor any substances or parameters at any location reasonably necessary to assure compliance with this permit or Department rules.

Reasonable time may depend on the nature of the concern being investigated.

8. If, for any reason, the permittee does not comply with or will be unable to comply with any condition or limitation specified in this permit, the permittee shall immediately provide the Department with the following information:
  - a. A description of and cause of non-compliance; and
  - b. The period of noncompliance, including dates and times; or, if not corrected, the anticipated time the non-compliance is expected to continue, and steps being taken to reduce, eliminate, and prevent recurrence of the non-compliance.

The permittee shall be responsible for any and all damages which may result and may be subject to enforcement action by the Department for penalties or for revocation of this permit.

9. In accepting this permit, the permittee understands and agrees that all records, notes, monitoring data and other information relating to the construction or operation of this permitted source which are submitted to the Department may be used by the Department as evidence in any enforcement case involving the permitted source arising under the F.S. or Department rules, except where such use is prescribed by Sections 403.73 and 403.111, F.S.. Such evidence

**SECTION 4. APPENDIX B**  
**GENERAL CONDITIONS**

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shall only be used to the extent it is consistent with the Florida Rules of Civil Procedure and appropriate evidentiary rules.

10. The permittee agrees to comply with changes in Department rules and F.S. after a reasonable time for compliance, provided, however, the permittee does not waive any other rights granted by F.S. or Department rules.
11. This permit is transferable only upon Department approval in accordance with Rules 62-4.120 and 62-730.300, F.A.C., as applicable. The permittee shall be liable for any non-compliance of the permitted activity until the transfer is approved by the Department.
12. This permit or a copy thereof shall be kept at the work site of the permitted activity.
13. This permit also constitutes:
  - a. Determination of Best Available Control Technology (applicable);
  - b. Determination of Prevention of Significant Deterioration (applicable); and
  - c. Compliance with New Source Performance Standards (not applicable).
14. The permittee shall comply with the following:
  - a. Upon request, the permittee shall furnish all records and plans required under Department rules. During enforcement actions, the retention period for all records will be extended automatically unless otherwise stipulated by the Department.
  - b. The permittee shall hold at the facility or other location designated by this permit records of all monitoring information (including all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation) required by the permit, copies of all reports required by this permit, and records of all data used to complete the application or this permit. These materials shall be retained at least three years from the date of the sample, measurement, report, or application unless otherwise specified by Department rule.
  - c. Records of monitoring information shall include:
    - 1) The date, exact place, and time of sampling or measurements;
    - 2) The person responsible for performing the sampling or measurements;
    - 3) The dates analyses were performed;
    - 4) The person responsible for performing the analyses;
    - 5) The analytical techniques or methods used; and
    - 6) The results of such analyses.
15. When requested by the Department, the permittee shall within a reasonable time furnish any information required by law which is needed to determine compliance with the permit. If the permittee becomes aware that relevant facts were not submitted or were incorrect in the permit application or in any report to the Department, such facts or information shall be corrected promptly.

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**SECTION 4. APPENDIX C**  
**COMMON CONDITIONS**

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Unless otherwise specified in the permit, the following conditions apply to all emissions units and activities at the facility.

**EMISSIONS AND CONTROLS**

1. **Plant Operation - Problems:** If temporarily unable to comply with any of the conditions of the permit due to breakdown of equipment or destruction by fire, wind or other cause, the permittee shall notify each Compliance Authority as soon as possible, but at least within one working day, excluding weekends and holidays. The notification shall include: pertinent information as to the cause of the problem; steps being taken to correct the problem and prevent future recurrence; and, where applicable, the owner's intent toward reconstruction of destroyed facilities. Such notification does not release the permittee from any liability for failure to comply with the conditions of this permit or the regulations. [Rule 62-4.130, F.A.C.]
2. **Circumvention:** The permittee shall not circumvent the air pollution control equipment or allow the emission of air pollutants without this equipment operating properly. [Rule 62-210.650, F.A.C.]
3. **Excess Emissions Allowed:** Excess emissions resulting from startup, shutdown or malfunction of any emissions unit shall be permitted providing (1) best operational practices to minimize emissions are adhered to and (2) the duration of excess emissions shall be minimized but in no case exceed two hours in any 24 hour period unless specifically authorized by the Department for longer duration. [Rule 62-210.700(1), F.A.C.]
4. **Excess Emissions Prohibited:** Excess emissions caused entirely or in part by poor maintenance, poor operation, or any other equipment or process failure that may reasonably be prevented during startup, shutdown or malfunction shall be prohibited. [Rule 62-210.700(4), F.A.C.]
5. **Excess Emissions - Notification:** In case of excess emissions resulting from malfunctions, the permittee shall notify the Department or the appropriate Local Program in accordance with Rule 62-4.130, F.A.C. A full written report on the malfunctions shall be submitted in a quarterly report, if requested by the Department. [Rule 62-210.700(6), F.A.C.]
6. **VOC or OS Emissions:** No person shall store, pump, handle, process, load, unload or use in any process or installation, volatile organic compounds (VOC) or organic solvents (OS) without applying known and existing vapor emission control devices or systems deemed necessary and ordered by the Department. [Rule 62-296.320(1), F.A.C.]
7. **Objectionable Odor Prohibited:** No person shall cause, suffer, allow or permit the discharge of air pollutants, which cause or contribute to an objectionable odor. An "objectionable odor" means any odor present in the outdoor atmosphere which by itself or in combination with other odors, is or may be harmful or injurious to human health or welfare, which unreasonably interferes with the comfortable use and enjoyment of life or property, or which creates a nuisance. [Rules 62-296.320(2) and 62-210.200(Definitions), F.A.C.]
8. **General Visible Emissions:** No person shall cause, let, permit, suffer or allow to be discharged into the atmosphere the emissions of air pollutants from any activity equal to or greater than 20% opacity. This regulation does not impose a specific testing requirement. [Rule 62-296.320(4)(b)1, F.A.C.]
9. **Unconfined Particulate Emissions:** During the construction period, unconfined particulate matter emissions shall be minimized by dust suppressing techniques such as covering and/or application of water or chemicals to the affected areas, as necessary. [Rule 62-296.320(4)(c), F.A.C.]

*{Permitting Note: Rule 62-210.700 (Excess Emissions), F.A.C., cannot vary any NSPS or NESHAP provision.}*

**RECORDS AND REPORTS**

10. **Records Retention:** All measurements, records, and other data required by this permit shall be documented in a permanent, legible format and retained for at least 5 years following the date on which such measurements, records, or data are recorded. Records shall be made available to the Department upon request. [Rule 62-213.440(1)(b)2, F.A.C.]
11. **Annual Operating Report:** The permittee shall submit an annual report that summarizes the actual operating rates and emissions from this facility. Annual operating reports shall be submitted to the Compliance Authority by March 1st of each year. [Rule 62-210.370(3), F.A.C.]