

## P.E. Certification Statement

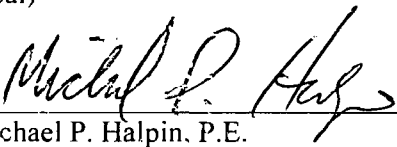
Progress Energy Florida  
Crystal River Energy Center  
Citrus County

DEP File No.: 0170004-010-AC  
Facility ID No.: 0170004

**Project:** Portable Cooling Towers

**I HEREBY CERTIFY** that the engineering features described in the above referenced application and related additional information submittals, if any, 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, and geological features).

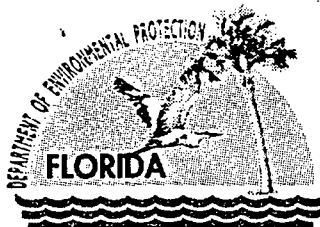
(Seal)

  
Michael P. Halpin, P.E.  
Registration Number: 31970

2-22-06  
Date

Permitting Authority:  
Florida Department of Environmental Protection  
Division of Air Resource Management  
Bureau of Air Regulation  
North Permitting Section  
Mail Station #5505  
2600 Blair Stone Road  
Tallahassee, Florida 32399-2400

Telephone: 850/488-0114  
Fax: 850/922-6979



# Department of Environmental Protection

Jeb Bush  
Governor

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

Colleen M. Castille  
Secretary

February 22, 2006

Mr. Bernie Cumbie, Plant Manager  
Progress Energy Florida  
Crystal River Units 1&2  
100 Central Ave. CN77  
St. Petersburg, Florida 33701

Re: DEP File No. PSD-FL-370, 0170004-010-AC, 0170004-011-AV  
Portable Cooling Towers  
Crystal River Power Plant / Citrus County

Dear Mr. Cumbie:

On February 6, 2006, the Department received your application to install portable cooling towers at the above facility, which is located in Citrus County. Enclosed are the following related documents: "Technical Evaluation Preliminary BACT Review" and "Draft Permit Revision". The "Technical Evaluation Preliminary BACT Review" summarizes the Permitting Authority's technical review of the application and provides the rationale for making the preliminary determination to issue the permit. The "Draft Permit" includes the specific changes to the above permit conditions that the Department intends to make.

The Department is providing its preliminary determination to issue revisions to these permits at the same time. Enclosed are the following combined documents related to these projects: "Written Notice of Intent to Issue Air Construction Permit/Title V Air Operation Permit Revision" and "Public Notice of Intent to Issue Air Construction Permit/Title V Air Operation Permit Revision". These documents revise both permits, allowing for a single Public Notice. The "Written Notice" provides important information regarding: the Permitting Authority's intent to issue the permits; the requirements for publishing the Public Notice of the Permitting Authority's intent to issue the air permits; the procedures for submitting comments on the Draft Permits; the requirements for requesting a public meeting; the process for filing a petition for an administrative hearing; and the availability of mediation. The "Public Notice" 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, Michael P. Halpin, P.E., at 850/921-9519.

Sincerely,

Trina Vielhauer, Chief  
Bureau of Air Regulation

Enclosures

"More Protection, Less Process"

Printed on recycled paper.

**WRITTEN NOTICE OF INTENT TO ISSUE  
AIR CONSTRUCTION PERMIT/TITLE V AIR OPERATION PERMIT REVISION**

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

Mr. Bernie Cumbie, Plant Manager  
Crystal River Power Plant  
100 Central Ave. CX1B  
St. Petersburg, Florida 33701

Project No. 0170004-010-AC, 0170004-011-AV  
Air Construction Permit  
Title V Air Operation Permit Revision  
Duval County, Florida

**Facility Location:** The Crystal River Power Plant is located north of Crystal River, on Power Line Rd., West of U.S. 19, Citrus County, Florida.

**Air Construction Permit Project:** This permit allows for the construction and initial operation of the portable cooling towers. Details are provided in the application and the enclosed "Technical Evaluation and Preliminary BACT Review".

**Title V Air Operation Permit Revision Project:** The Draft Title V Air Operation permit revision incorporates the air construction permit for this facility.

**Permitting Authority:** Applications for these permitting actions are subject to review in accordance with the provisions of Chapter 403 of the Florida Statutes (F.S.) and Chapters 62-4, 62-210, 62-212, 62-213 and 62-214 of the Florida Administrative Code (F.A.C.). The proposed project is not exempt from air permitting requirements and air permits are required for the air construction permit and to operate the facility. The Florida Department of Environmental Protection's Bureau of Air Regulation is the Permitting Authority responsible for making permit determinations regarding these projects. The Permitting Authority's physical address is: 111 South Magnolia Drive, Suite #4, in 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 and facsimile number is 850/922-6979.

**Project Files:** Complete project files are 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 the address indicated above for the Permitting Authority. For the Air Construction Permit Project, the complete project file includes the Draft Permit, the Technical Evaluation and Preliminary BACT Review, the application, and the information submitted by the applicant, exclusive of confidential records under Section 403.111, F.S. For the Title V Air Operation Permit Revision Project, the complete project file includes the Draft Permit, the application, and the information submitted by the applicant, exclusive of confidential records under Section 403.111, F.S. Interested persons may view the Draft Permit and file electronic comments by visiting the following website: <http://www.dep.state.fl.us/air/eproducts/ards/>. Copies of the complete project files are also available at the Air Resources Section of the Department's Southwest District Office at 13051 N. Telecom Parkway, Temple Terrace; Phone Number 813-632-7600.

**Notice of Intent to Issue Air Permits:** The Permitting Authority gives notice of its intent to issue the Draft Air Construction Permit and the Draft Title V Air Operation Permit Revision to the applicant for the projects described above. The applicant has provided reasonable assurance that operation of the facility will not adversely impact air quality and that the projects will comply with all appropriate provisions of Chapters 62-4, 62-204, 62-210, 62-212, 62-213, 62-214, 62-256, 62-257, 62-281, 62-296, and 62-297, F.A.C. For the Draft Air Construction Permit, the Permitting Authority will issue a Final Permit in accordance with the conditions of the Draft Permit unless a response received in accordance with the following procedures results in a different decision or a significant change of terms or conditions. For the Draft Title V Air Operation Permit Revision, the Permitting Authority will issue PROPOSED Permit conditions and subsequent FINAL Permit conditions in accordance with the conditions of the Draft Permit unless a response received in accordance with the following procedures 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 Construction Permit/Title V Air Operation Permit Revision" (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), F.A.C., the applicant shall provide proof of publication to the Permitting Authority at the above address within seven (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.

**WRITTEN NOTICE OF INTENT TO ISSUE  
AIR CONSTRUCTION PERMIT/TITLE V AIR OPERATION PERMIT REVISION**

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**Comments on the Air Construction Permit Project:** The Permitting Authority will accept written comments concerning the Draft Air Construction Permit for a period of thirty (30) days from the date of publication of the Public Notice. Written comments must be post-marked, and all e-mail or facsimile comments must be received 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, email or facsimile. If written comments 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.

**Comments on the Draft Title V Air Operation Permit Revision Project:** The Permitting Authority will accept written comments concerning the Draft Permit for a period of thirty (30) days from the date of publication of the Public Notice. Written comments must be post-marked, and all e-mail or facsimile comments must be received 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, email or facsimile. 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 on the Department's official web site for notices at <http://tlhora6.dep.state.fl.us/onw> 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 decisions 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 fourteen (14) days of receipt of this "Written Notice of Intent". Petitions filed by any persons other than those entitled to written notice under Section 120.60(3), F.S., must be filed within fourteen (14) days of publication of the attached "Public Notice" or within fourteen (14) days of receipt of this "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 fourteen (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 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 interests will be affected by the agency determination; (c) A statement of how and when each petitioner received notice of the agency action or proposed action; (d) A statement of all disputed issues of material fact. If there are none, the petition must so 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; 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". Persons whose substantial interests will be affected by any such final decision of the Permitting Authority on these applications 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.

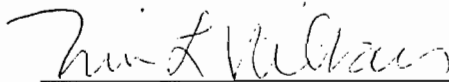
**Objections to the FINAL Title V Permit:** Finally, pursuant to 42 United States Code (U.S.C.) Section 7661d(b)(2), any person may petition the Administrator of the EPA within sixty (60) days of the expiration of the Administrator's 45 (forty-

**WRITTEN NOTICE OF INTENT TO ISSUE  
AIR CONSTRUCTION PERMIT/TITLE V AIR OPERATION PERMIT REVISION**

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five) day review period as established at 42 U.S.C. Section 7661d(b)(1), to object to the issuance of any Title V air operation permit. Any petition shall be based only on objections to the Permit that were raised with reasonable specificity during the thirty (30) day public comment period provided in the Public Notice, unless the petitioner demonstrates to the Administrator of the EPA that it was impracticable to raise such objections within the comment period or unless the grounds for such objection arose after the comment period. Filing of a petition with the Administrator of the EPA does not stay the effective date of any permit properly issued pursuant to the provisions of Chapter 62-213, F.A.C. Petitions filed with the Administrator of EPA must meet the requirements of 42 U.S.C. Section 7661d(b)(2) and must be filed with the Administrator of the EPA at: U.S. EPA, 401 M Street, S.W., Washington, D.C. 20460. For more information regarding EPA review and objections, visit EPA's Region 4 web site at <http://www.epa.gov/region4/air/permits/Florida.htm>.

Executed in Tallahassee, Florida.



Trina Vielhauer, Chief  
Bureau of Air Regulation

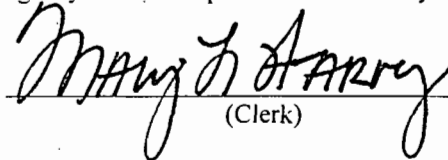
**CERTIFICATE OF SERVICE**

The undersigned duly designated deputy agency clerk hereby certifies that this "Written Notice of Intent to Issue Air Permit" package (including the Written Notice of Intent, the Public Notice, the "Technical Evaluation, Preliminary BACT Review", the Draft Air Construction and Draft Title V Air Operation Permit Revision was sent by certified mail (\*) and copies were mailed by U.S. Mail before the close of business on 2/22/06 to the persons listed below.

Bernie Cumbie, Progress Energy Florida\*  
Dave Meyer, Progress Energy Florida  
Scott Osbourn, P.E., Golder Associates  
Joel Smolen, DEP-SWD  
Doug Neeley, EPA  
John Bunyak, NPS

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.

  
(Clerk)

2/22/06  
(Date)

PUBLIC NOTICE OF INTENT TO ISSUE  
AIR CONSTRUCTION PERMIT/TITLE V AIR OPERATION PERMIT REVISION

Florida Department of Environmental Protection  
Draft Air Construction Permit No. 0170004-010-AC (PSD-FL-370)  
Draft Title V Air Operation Permit Revision No. 0170004-011-AV  
Crystal River Power Plant  
Citrus County, Florida

**Applicant:** The applicant for this project is Progress Energy Florida. The facility responsible official is Bernie Cumbie, Plant Manager.

**Facility Location:** The applicant's address is 100 Central Ave. CX1B, St. Petersburg, Florida 33701.

**Air Construction Permit:** This project allows for installation of portable cooling towers at the facility. The permit incorporates new conditions but does not alter existing permit conditions. Calculated emission increases exceed the PSD significance threshold for PM (25 TPY). The project is subject to PSD preconstruction review for PM and the draft permit includes a Best Available Control Technology (BACT) Determination based upon the drift rate of the circulating water.

**Title V Air Operation Permit Revision:** This project is to incorporate the above, applicable revisions to the Title V Air Operation permit for the facility.

**Permitting Authority:** Application for these permitting actions are subject to review in accordance with the provisions of Chapter 403 of the Florida Statutes (F.S.) and Chapters 62-4, 62-210, 62-212, 62-213 and 62-214 of the Florida Administrative Code (F.A.C.). The proposed project is not exempt from air permitting requirements and air permits are required for the air construction permit and to operate the facility. The Florida Department of Environmental Protection's Bureau of Air Regulation is the Permitting Authority responsible for making permit determinations regarding these projects. The Permitting Authority's physical address is: 111 South Magnolia Drive, Suite #4, in 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 and facsimile number is 850/922-6979.

**Project Files:** Complete project files are 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 the address indicated above for the Permitting Authority. For the Air Construction Permit Project, the complete project file includes the Draft Permit, the Technical Evaluation and Preliminary BACT Review, the application, and the information submitted by the applicant, exclusive of confidential records under Section 403.111, F.S. For the Title V Air Operation Permit Project Revision, the complete project file includes the Draft Permit, the application, and the information submitted by the applicant, exclusive of confidential records under Section 403.111, F.S. Interested persons may view the Draft Permit documents and file electronic comments by visiting the following website: <http://www.dep.state.fl.us/air/eproducts/ards/>. Copies of the complete project files are also available at the Air Resources Section of the Department's Southwest District Office at 13051 N. Telecom Parkway, Temple Terrace; Phone Number 813-632-7600.

**Notice of Intent to Issue Air Permits:** The Permitting Authority gives notice of its intent to issue the Draft Air Construction Permit and the Draft Title V Air Operation Permit Revision to the applicant for the project described above. The applicant has provided reasonable assurance that operation of the facility will not adversely impact air quality and that the projects will comply with all appropriate provisions of Chapters 62-4, 62-204, 62-210, 62-212, 62-213, 62-214, 62-256, 62-257, 62-281, 62-296, and 62-297, F.A.C. For the Draft Air Construction Permit, the Permitting Authority will issue a Final Permit in accordance with the conditions of the Draft Permit unless a response received in accordance with the following procedures results in a different decision or a significant change of terms or conditions. For the Draft Title V Air Operation Permit Revision, the Permitting Authority will issue PROPOSED Permit conditions and subsequent FINAL Permit conditions in accordance with the conditions of the Draft Permit unless a response received in accordance with the following procedures results in a different decision or a significant change of terms or conditions.

**Comments on the Air Construction Permit Project:** The Permitting Authority will accept written comments concerning the Draft Air Construction Permit for a period of thirty (30) days from the date of publication of the Public Notice as well as requests for a public meeting concerning the permit issuance action for a period of 30 (thirty) days from the date of publication of the Public Notice. Written comments must be post-marked, and all e-mail or facsimile comments must be received 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, email or facsimile. If written comments 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.

**Comments on the Draft Title V Air Operation Permit Project:** The Permitting Authority will accept written comments concerning the Draft Permit for a period of thirty (30) days from the date of publication of the Public Notice. Written comments must be post-marked, and all e-mail or facsimile comments must be received by the close of business (5:00 p.m.),

(Public Notice to be Published in the Newspaper)

**PUBLIC NOTICE OF INTENT TO ISSUE  
AIR CONSTRUCTION PERMIT/TITLE V AIR OPERATION PERMIT REVISION**

on or before the end of this 30-day period by the Permitting Authority at the above address, email or facsimile. 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 on the Department's official web site for notices at <http://tlhora6.dep.state.fl.us/onw> 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 decisions 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 fourteen (14) days of receipt of this "Written Notice of Intent". Petitions filed by any persons other than those entitled to written notice under Section 120.60(3), F.S., must be filed within fourteen (14) days of publication of the attached "Public Notice" or within fourteen (14) days of receipt of this "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 fourteen (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 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 interests will be affected by the agency determination; (c) A statement of how and when each petitioner received notice of the agency action or proposed action; (d) A statement of all disputed issues of material fact. If there are none, the petition must so 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; 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". Persons whose substantial interests will be affected by any such final decision of the Permitting Authority on these applications 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.

**Objections to the FINAL Title V Permit:** Finally, pursuant to 42 United States Code (U.S.C.) Section 7661d(b)(2), any person may petition the Administrator of the EPA within sixty (60) days of the expiration of the Administrator's 45 (forty-five) day review period as established at 42 U.S.C. Section 7661d(b)(1), to object to the issuance of any Title V air operation permit. Any petition shall be based only on objections to the Permit that were raised with reasonable specificity during the thirty (30) day public comment period provided in the Public Notice, unless the petitioner demonstrates to the Administrator of the EPA that it was impracticable to raise such objections within the comment period or unless the grounds for such objection arose after the comment period. Filing of a petition with the Administrator of the EPA does not stay the effective date of any permit properly issued pursuant to the provisions of Chapter 62-213, F.A.C. Petitions filed with the Administrator of EPA must meet the requirements of 42 U.S.C. Section 7661d(b)(2) and must be filed with the Administrator of the EPA at: U.S. EPA, 401 M Street, S.W., Washington, D.C. 20460. For more information regarding EPA review and objections, visit EPA's Region 4 web site at <http://www.epa.gov/region4/air/permits/Florida.htm>.

# DRAFT

**PERMITTEE:**

Progress Energy Florida  
Crystal River Power Plant  
100 Central Ave. CX1B  
St. Petersburg, Florida 33701

**ARMS Permit No.** 0170004-010-AC

**Facility ID No.** 0170004

**SIC No.** 4911

**Expires:** April 30, 2007

***Authorized Representative:***

Bernie Cumbie  
Plant Manager

**PROJECT AND LOCATION**

The proposed project authorizes the installation of portable cooling towers for occasional use with Crystal River units 1 and 2.

The project will be located at the existing Crystal River Power Plant, located north of Crystal River, on Power Line Rd., West of U.S. 19, Citrus County, Florida. The UTM coordinates are Zone 17, 334.3 km E, 3204.5 km N.

**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 permittee is authorized to install the proposed equipment 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.

**APPENDICES**

The following Appendices are attached as part of this permit.

Appendix GC-1 Construction Permit General Conditions

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Michael G. Cooke, Director  
Division of Air Resource Management



BEST AVAILABLE COPY

**FACILITY DESCRIPTION**

This facility consists of four coal-fired fossil fuel steam generating units (boilers) with electrostatic precipitators; two natural draft cooling towers for units 4 and 5; helper mechanical cooling towers for units 1, 2 and Nuclear Unit 3; coal, flyash and bottom ash-handling facilities, and relocatable diesel fired generator(s).

This facility is classified as a Major or Title V Source of air pollution because emissions of at least one regulated air pollutant, such as particulate matter (PM/PM<sub>10</sub>), sulfur dioxide (SO<sub>2</sub>), nitrogen oxides (NO<sub>x</sub>), carbon monoxide (CO), or volatile organic compounds (VOC) exceeds 100 tons per year (TPY).

This facility is within an industry included in the list of the 28 Major Facility Categories per Table 62-212.400-1, F.A.C. Because emissions are greater than 100 TPY for at least one criteria pollutant, the facility is also a Major Facility with respect to Rule 62-212.400, Prevention of Significant Deterioration (PSD). Based upon the Title V application, the facility is a major source of hazardous air pollutants (HAPs).

The Project consists of the construction and operation of portable cooling towers comprised of 71 or 72 cells (dependent upon manufacturer), with a width of 12' and a height of 11', includes drift eliminators, operates at a maximum seawater flow rate of 180,000 gallons per minute for all cells combined, with a design airflow rate of 25,000 acfm from each cell. Seawater is sprayed through the towers where fan induced air flow causes evaporative cooling. Water vapor, saltwater droplets (drift) and salt particles are emitted. Drift emissions are controlled by drift eliminators.

**REGULATORY CLASSIFICATION**

Title V Major Source: This facility is a Title V major source of air pollution.

PSD Major Source: For this project, the emissions of PM are subject to a BACT standard.

**PERMIT SCHEDULE**

- 02-06-06: Date of Receipt of Permit Application
- 02-06-06: Application deemed complete
- 02-22 -06: Intent issued
- xx-xx-xx: Notice published in the XXXXX

**RELEVANT DOCUMENTS**

The documents listed form the basis of the permit. They are specifically related to this permitting action. These documents are on file with the Department.

- Application received 2-06-06
- Technical Evaluation and Preliminary BACT Review dated 2-22-06

DRAFT

## GENERAL AND ADMINISTRATIVE REQUIREMENTS

1. Permitting Authority: All documents related to applications for permits to construct, operate or modify an emissions unit should be submitted to the Bureau of Air Regulation (BAR), Florida Department of Environmental Protection (DEP), at 2600 Blair Stone Road, Tallahassee, Florida 32399-2400 and phone number 850/488-0114.
2. Compliance Authority: All documents related to compliance activities such as reports, tests, and notifications should be submitted to the FDEP Southwest District Office, 13051 N. Telecom Parkway, Temple Terrace, Florida 33637. The phone number is 813/632-7600 and the fax number is 813/632-7668.
3. Terminology: The terms used in this permit have specific meanings as defined in the applicable chapters of the Florida Administrative Code.
4. General Conditions: The owner and operator are subject to, and shall operate under, the attached General Conditions listed in *Appendix GC-1* of this permit. General Conditions are binding and enforceable pursuant to Chapter 403 of the Florida Statutes. [Rule 62-4.160, F.A.C.]
5. Applicable Regulations, Forms and Application Procedures: Unless otherwise indicated in this permit, the construction and operation of the subject emissions unit shall be in accordance with the capacities and specifications stated in the application. The facility is subject to all applicable provisions of Chapter 403, F.S. and Florida Administrative Code Chapters 62-4, 62-110, 62-204, 62-212, 62-213, 62-296, 62-297 and the Code of Federal Regulations Title 40, Part 60, adopted by reference in the Florida Administrative Code (F.A.C.) regulations. The permittee shall use the applicable forms listed in Rule 62-210.900, F.A.C. and follow the application procedures in Chapter 62-4, F.A.C. Issuance of this permit does not relieve the facility owner or operator from compliance with any applicable federal, state, or local permitting or regulations. [Rules 62-204.800, 62-210.300 and 62-210.900, F.A.C.]
6. 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.]
7. Modifications: 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.]
8. Expiration: This air construction permit shall expire on April 30, 2007. The permittee, for good cause, may request that this construction permit be extended. Such a request shall be submitted to the Department's Bureau of Air Regulation prior to 60 days before the expiration of the permit. [Rules 62-210.300(1), 62-4.070(4) 62-4.080, and 62-4.210, F.A.C.]
9. Title V Permit: This permit authorizes construction and/or installation of the permitted emissions unit and initial operation to determine compliance with Department rules. A Title V operation permit revision is required for continued operation of the permitted emissions unit. A concurrent Title V revision was processed with this Air Construction permit. [Rules 62-4.030, 62-4.050, 62-4.220, and 62-213.420, F.A.C.]

## SECTION III - EMISSIONS UNITS SPECIFIC CONDITIONS

### C. Cooling Tower (EU 020)

#### EMISSIONS UNITS

This section of the permit addresses the following new emissions unit.

ID	Emission Unit Description
020	Portable, Mechanical Draft Cooling Towers with a maximum circulation rate of 180,000 GPM.

#### EQUIPMENT

1. Cooling Tower: The permittee is authorized to install a portable mechanical draft cooling tower with the following nominal design characteristics: a circulating water flow rate of 180,000 gpm; a design air flow rate of 25,000 acfm per cell; drift eliminators; a drift rate of no more than 0.0015 percent of the circulating water flow. [Application; Design]

#### EMISSIONS AND PERFORMANCE REQUIREMENTS

2. Drift Rate: Within 60 days of commencing operation, the permittee shall certify that the cooling tower was constructed and installed so as to achieve the specified drift rate of no more than 0.0015 percent of the circulating water flow rate. [Rule 62-212.400 (BACT), F.A.C.]  
{Note: This emissions unit is not subject to a visible emissions limitation. Emissions from this emissions unit include water droplets, so visible emission testing is not possible.}
3. Hours of Operation: The operating hours for the portable cooling towers shall not exceed an equivalent of 2920 hours per year of operation (12-month rolling total). This condition shall be complied with by limiting the circulating water flow usage through the portable cooling towers to 31.5E9 gallons per 12-month rolling period. [Rule 62-212.400 (BACT), F.A.C.]
4. Cooling Tower Design: The portable cooling towers shall be designed, operated and maintained to achieve a drift rate of no more than 0.0015% of the circulating water flow. This equates to an estimated emission rate of particulate matter (PM) from the cooling tower at 35.1 pounds per hour. [Rule 62-212.400 (BACT), F.A.C.]  
{Note: The emission limit is based on a BACT Determination setting the maximum drift emissions at 0.0015%. PM<sub>10</sub> emissions are estimated to be approximately 6% of the particulate matter emission rate.}  
[Rule 62-213.440, F.A.C.]
5. Emission Test Method: The drift elimination system on the helper cooling towers shall be maintained so as to minimize pluggage and to insure timely repair of broken sections of the drift eliminators. During those calendar days when the portable cooling towers are used, the following work practice shall be implemented, in lieu of EPA Method 5, to demonstrate compliance with the originally designed removal efficiency (no more than 0.0015% drift rate):
  - (a) Daily "walkdown" inspection of each operational cell visually checking for problems with the drift eliminators such as pluggage, algae build-up, and mechanical components (fans and pumps).
  - (b) Daily visual inspection of the cells which are in operation to ascertain the presence of higher than expected visible emissions when atmospheric conditions allow, and follow-up inspections and correction of problems when the daily visual inspection of the cells indicates a problem.
  - (c) Weekly visual inspections of the inlet water screens and prompt correction when broken sections or pluggage is discovered.[Rule 62-213.440 and ASP No. 00-E-01 dated June 7, 2000]

### SECTION III - EMISSIONS UNITS SPECIFIC CONDITIONS

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#### C. Cooling Tower (EU 020)

6. Inspection Log: Any problems detected during the work practice inspections identified in Specific Condition 5. shall be documented in a log identifying the cell (or water screen), the inspector, the time (when discovered and the hours operated before the problem was corrected), and a description of the problem and the corrective actions taken. This log shall be maintained onsite and shall be made available to DEP upon request. The log shall be maintained so as to provide an indication as to whether routine inspections have been conducted as required even when there are no problems to record.  
[Rules 62-213.440 and 62-297.310(7) and ASP No. 00-E-01 dated June 7, 2000]
7. Circulating Water Flowmeters: Equip the portable cooling towers with a circulating water flow-meter and maintain records of circulating water flow for each calendar month.  
[Rule 62-213.440, F.A.C.]

**APPENDIX GC**  
**GENERAL PERMIT CONDITIONS [F.A.C. 62-4.160]**

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- G.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, Florida Statutes. 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.
- G.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 or exhibits, specifications, or conditions of this permit may constitute grounds for revocation and enforcement action by the Department.
- G.3 As provided in Subsections 403.087(6) and 403.722(5), Florida Statutes, 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.
- G.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.
- G.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 Florida Statutes and Department rules, unless specifically authorized by an order from the Department.
- G.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.
- G.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 and 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.
- G.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.

**APPENDIX GC**  
**GENERAL PERMIT CONDITIONS [F.A.C. 62-4.160]**

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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.

- G.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 Florida Statutes or Department rules, except where such use is prescribed by Sections 403.73 and 403.111, Florida Statutes. Such evidence shall only be used to the extent it is consistent with the Florida Rules of Civil Procedure and appropriate evidentiary rules.
- G.10 The permittee agrees to comply with changes in Department rules and Florida Statutes after a reasonable time for compliance, provided, however, the permittee does not waive any other rights granted by Florida Statutes or Department rules.
- G.11 This permit is transferable only upon Department approval in accordance with Florida Administrative Code 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.
- G.12 This permit or a copy thereof shall be kept at the work site of the permitted activity.
- G.13 This permit also constitutes:
- a) Determination of Best Available Control Technology (X)
  - b) Determination of Prevention of Significant Deterioration (X); and
  - c) Compliance with New Source Performance Standards (X).
- G.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.
- G.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.

**Subsection L. This section addresses the following emissions unit.**

<b>E.U. ID No.</b>	<b>Brief Description</b>
020	Cooling towers for FFSG Units 1 and 2 used to reduce plant discharge water temperature.

Emissions unit 020 is cooling towers for FFSG Units 1 and 2, used to reduce plant discharge water temperature. (This emission unit may be referred to as "portable cooling towers.") This emissions unit consists of 71 or 72 cells (dependent upon manufacturer), is 12' wide and 11' high, includes drift eliminators, operates at a maximum seawater flow rate of 180,000 gallons per minute for all cells combined, with a design airflow rate of 25,000 acfm from each cell. Seawater is sprayed through the towers where fan induced air flow causes evaporative cooling. Water vapor, saltwater droplets (drift) and salt particles are emitted. Drift emissions are controlled by drift eliminators.

{Permitting note(s): This emissions unit is regulated under Prevention of Significant Deterioration (PSD) (permit 0170004-010-AC) and includes a Best Available Control Technology (BACT) Determination, which allows for a drift emission rate of 0.0015% with limited usage.}

**The following specific conditions apply to the emissions unit(s) listed above:**

**Essential Potential to Emit (PTE) Parameters**

**L.1. Hours of Operation.** The operating hours for the portable cooling towers shall not exceed an equivalent of 2920 hours per year of operation (12-month rolling total). This condition shall be complied with by limiting the circulating water flow usage through the portable cooling towers to 31.5E9 gallons per 12-month rolling period.

[Rule 62-210.200(PTE), F.A.C.; and 0170004-010-AC]]

**Emission Limitations and Standards**

**L.2. Cooling Tower Design:** The portable cooling towers shall be designed, operated and maintained to achieve a drift rate of no more than 0.0015% of the circulating water flow. This equates to an estimated emission rate of particulate matter (PM) from the cooling tower at 35.1 pounds per hour. Within 60 days of commencing operation, the permittee shall certify that the cooling tower was constructed and installed so as to achieve the specified drift rate of no more than 0.0015 percent of the circulating water flow rate.

{Note: The emission limit is based on a BACT Determination setting the maximum drift emissions at 0.0015%. PM<sub>10</sub> emissions are estimated to be approximately 6% of the particulate matter emission rate.}

[Rule 62-213.440, F.A.C., 0170004-010-AC) and Rule 62-212.400 (BACT)]

**L.3. Drift Eliminators.** Drift eliminators shall be installed and maintained as per the manufacturer's specifications. Regular maintenance shall be scheduled to ensure proper operation of the drift eliminators.

[Rule 62-213.440, F.A.C.; and 0170004-010-AC]]

{Note: This emissions unit is not subject to a visible emissions limitation. Emissions from this emissions unit include water droplets, so visible emission testing is not possible.}

**Test Methods and Procedures**

**L.4. Emission Test Method.** The drift elimination system on the helper cooling towers shall be maintained so as to minimize pluggage and to insure timely repair of broken sections of the drift eliminators. During those calendar days when the portable cooling towers are used, the following work practice shall be implemented, in lieu of EPA Method 5, to demonstrate compliance with the originally designed removal efficiency (no more than 0.0015% drift rate):

- (a) Daily "walkdown" inspection of each operational cell visually checking for problems with the drift eliminators such as pluggage, algae build-up, and mechanical components (fans and pumps).
- (b) Daily visual inspection of the cells which are in operation to ascertain the presence of higher than expected visible emissions when atmospheric conditions allow, and follow-up inspections and correction of problems when the daily visual inspection of the cells indicates a problem.
- (c) Weekly visual inspections of the inlet water screens and prompt correction when broken sections or pluggage is discovered.

[Rule 62-213.440, F.A.C., 0170004-010-AC; and ASP No. 00-E-01 dated June 7, 2000]

#### **Monitoring of Operations**

**L.5. Inspection Log:** Any problems detected during the work practice inspections identified in Specific Condition L.4. shall be documented in a log identifying the cell (or water screen), the inspector, the time (when discovered and the hours operated before the problem was corrected), and a description of the problem and the corrective actions taken. This log shall be maintained onsite and shall be made available to DEP upon request. The log shall be maintained so as to provide an indication as to whether routine inspections have been conducted as required even when there are no problems to record.

[Rules 62-213.440 and 62-297.310(7), F.A.C., 0170004-010-AC and ASP No. 00-E-01 dated June 7, 2000]

#### **Record Keeping and Reporting Requirements**

**L.6. Circulating Water Flow-meters Required.** Equip the portable cooling towers with a circulating water flow-meter and maintain records of circulating water flow for each calendar month.

[Rule 62-213.440, F.A.C.; and, AC 09-162037 (PSD-FL-139)]

#### **Common Conditions**

**L.7.** This emissions unit is also subject to conditions I.2, I.4, I.5, I.6, I.14 and I.15 contained in Subsection I. Common Conditions.



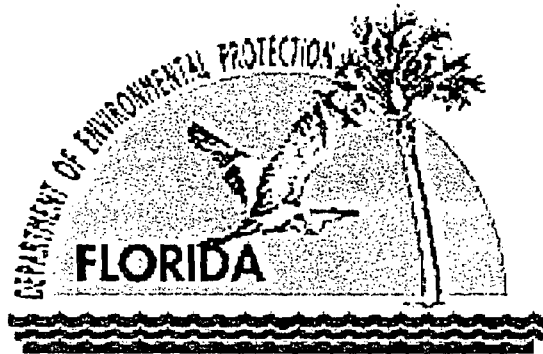
**TECHNICAL EVALUATION  
PRELIMINARY BACT REVIEW  
AND  
STATEMENT OF BASIS**

Progress Energy Florida – Crystal River Units 1 & 2

Portable Cooling Towers

Citrus County

0170004-010-AC



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

February 22, 2006

# TECHNICAL EVALUATION AND PSD DETERMINATION

## 1. GENERAL INFORMATION

### 1.1 APPLICANT NAME AND ADDRESS

Progress Energy Florida  
100 Central Ave. CN77  
St. Petersburg, Florida 33701  
Authorized Representative: Bernie Cumbie, Plant Manager

### 1.2 REVIEWING AND PROCESS SCHEDULE

February 06, 2006 Received Permit Application  
February 06, 2006 Application complete

## 2. FACILITY INFORMATION

### 2.1 FACILITY LOCATION

The facility is located north of Crystal River, on Power Line Rd., West of U.S. 19, Citrus County. The UTM coordinates are Zone 17; 334.3 km E; 3204.5 km N. This site is located in the same county as the Chassahowitzka National Wildlife Refuge, a Class I PSD Area.

### 2.2 STANDARD INDUSTRIAL CLASSIFICATION CODES (SIC)

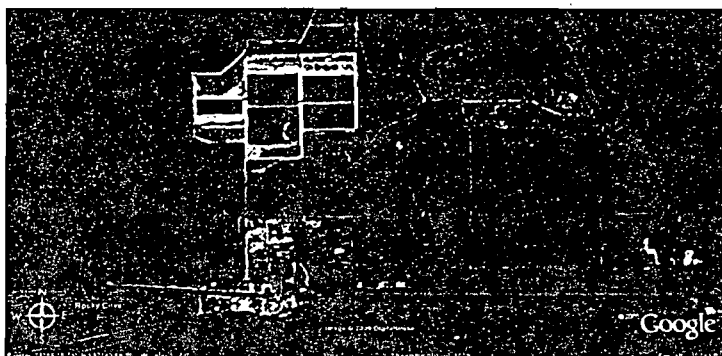
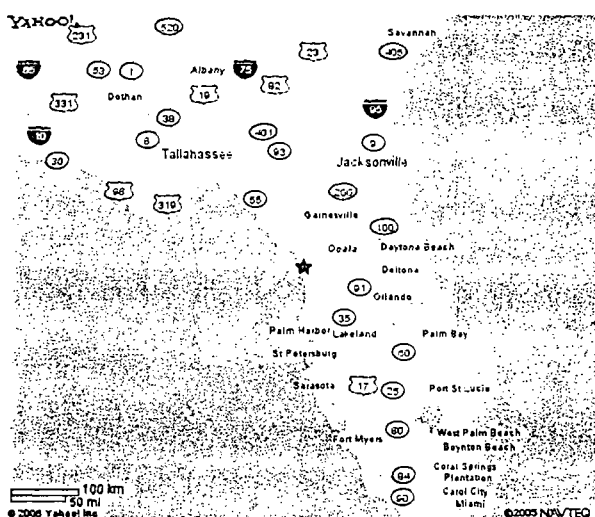
Industry Group No.	49	Electric, Gas and Sanitary Services
Industry No.	4911	Electric Services

### 2.3 FACILITY CATEGORY

This facility consists of four coal-fired fossil fuel steam generating units (boilers) with electrostatic precipitators; two natural draft cooling towers for units 4 and 5; helper mechanical cooling towers for units 1, 2 and Nuclear Unit 3; coal, flyash and bottom ash-handling facilities, and relocatable diesel fired generator(s).

This facility is classified as a Major or Title V Source of air pollution because emissions of at least one regulated air pollutant, such as particulate matter (PM/PM<sub>10</sub>), sulfur dioxide (SO<sub>2</sub>), nitrogen oxides (NO<sub>x</sub>), carbon monoxide (CO), or volatile organic compounds (VOC) exceeds 100 tons per year (TPY).

This facility is within an industry included in the list of the 28 Major Facility Categories per Table 62-212.400-1, F.A.C. Because emissions are greater than 100 TPY for at least one criteria pollutant, the facility is also a Major Facility with respect to Rule 62-212.400, Prevention of Significant Deterioration (PSD). Based upon the Title V application, the facility is a major source of hazardous air pollutants (HAPs).



# TECHNICAL EVALUATION AND PSD DETERMINATION

## 3. DESCRIPTION

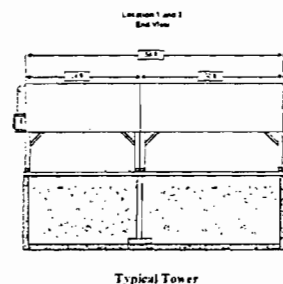
This project addresses the following emissions unit(s):

Emissions Unit No.	Emissions Unit Description
020	Portable, Mechanical Draft Cooling Towers with a maximum circulation rate of 180,000 GPM.

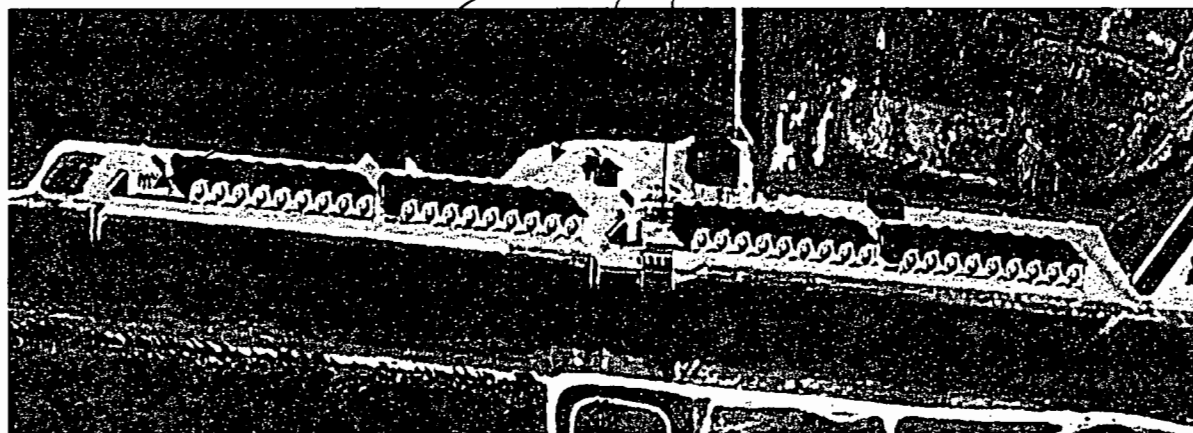
### 3.1 PROJECT DESCRIPTION

The project involves the installation and subsequent operation of modular (portable) cooling towers. The cooling towers are planned for use with coal-fired units 1 and 2 on a predominantly seasonal basis (late summer and/or early fall). The installation of these cooling towers provides a means of ensuring that the combined cooling water discharge temperature from the facility's steam condensers remains within regulated limits, while minimizing or eliminating the potential for reductions in output on the coal units as a result of the maximum discharge temperature being reached. Brackish water with an average TDS value of 25,307 parts per million (as the cooling medium) and an annual cooling tower usage limitation which is equivalent to 3000 hours per year are proposed.

- Up to 70 rental towers
- Up to 180,000 GPM additional flow
- Up to 2 deg.F additional cooling
- Used only a few months per year
- Reduce or eliminate plant derates during summer
- Use existing intake and discharge points



Portable Cooling Tower Locations



### 3.2 DESCRIPTION OF CURRENT STATUS

Fossil fuel steam generators units 1 and 2 are pulverized coal dry bottom, tangentially-fired boilers. Steam generator unit 1 began commercial operation in 1966 and steam generator unit 2 began commercial operation in 1969. These steam generating units are constructed with a discharge of once through cooling water (OTCW) to the site discharge canal and then to the Gulf of Mexico, a Class III marine water, via three outfalls permitted under NPDES Permit FL0000159. Within the subject NPDES Permit, Condition I.A.4. limits the above discharge temperature to 96.5° F based upon a 3-hour rolling average. According to information submitted by the applicant, some periods may exist, typically during the late summer, that require limiting the steam generating output on units 1 and 2 in order to comply with the subject NPDES permit condition. The limitation is not predictable, is different from one year to the

## TECHNICAL EVALUATION AND PSD DETERMINATION

next and can even disappear on a day-to-day basis based upon changes in air temperature or rainfall quantities. The sole origin of this potential limitation is NPDES, and it is not related to air emissions.

### 4. PROJECT EMISSIONS

#### 4.1 EMISSION INCREASES

The following emission increases are indicated by the applicant:

Pollutant	Annual Emissions (TPY)	PSD Threshold (TPY)	PSD Review Required
PM	52.7	25	Yes
PM <sub>10</sub>	3.2 *	15	No

\* Based upon the paper "Calculating Realistic PM<sub>10</sub> Emissions from Cooling Towers" which is built upon the methodology presented in EPA's AP-42, the portion of PM which is emitted as PM<sub>10</sub> decreases as the TDS in the circulating water increases. For this project, the high TDS of the brackish water (>25,000 ppm) results in a very small fraction of PM<sub>10</sub> emissions.

#### 4.2 DE-BOTTLENECKING EVALUATION

The project proposes to add a series of new portable cooling towers that will allow Units 1 and 2 to operate at capacity during periods of peak power demand such as the late summer. Potential emissions increases from the proposed cooling towers will be greater than the PSD significant emission rate for PM (25 tons/year), but less than the PSD significant emission rate for PM<sub>10</sub> (15 tons/year). The Department did not consider collateral emissions increases from Units 1 and 2 for the following reasons:

- The NPDES permit for Units 1 and 2 restricts the plant's thermal discharge, which may result in reduced operation for one or more of the units. However, Units 1 and 2 currently operate at rated capacity throughout the year, notwithstanding the thermal discharge limitation.
- The thermal discharge restriction only affects plant operation at certain times of the year depending on a combination of factors including load demand, air and water temperatures.
- No physical or operational changes to Units 1 and 2 are being made.
- There are no restrictions in the air permits for Units 1 and 2 that prevent operation at capacity.

Therefore, a determination of Best Available Control Technology (BACT) is required for PM emissions from the cooling towers, but no air quality analysis is imposed because the project is not subject to PSD review for PM<sub>10</sub>.

### 5.0 BACT REVIEW

#### 5.1 APPLICANT BACT REVIEW

The applicant proposes drift eliminators as BACT, with a drift rate of 0.0015%, and a total circulating water flow usage limitation of 32.4E9 gallons per year (equivalent to 3000 hours per year of full operation). This yields annual PM emissions of 52.7 TPY and annual PM<sub>10</sub> emissions of 3.2 TPY.

#### 5.2 DEPARTMENT BACT REVIEW

The Department conducted a BACT review via an inspection of the RACT/BACT/LAER Clearinghouse for mechanical draft cooling towers permitted between January 2003 and January 2006. Based upon this review, the Department concludes that BACT for mechanical draft cooling towers is almost universally based upon drift eliminators. Additionally, BACT emission rates can be established as low as 0.0005% (with 8760 hours per year of operation), or as high as the applicant's recommended BACT rate of 0.0015%. Given that the equipment herein is portable in nature, some deference is granted to the applicant's request for the higher end of the BACT range, as it is reasoned that portable cooling towers may not be able to be constructed to the same tight specifications as permanently installed towers. Lastly, it is noted that the lower end of the BACT range (0.0005%) is 1/3 of the applicant's proposal (0.0015%), and that the applicant does not request authorization to operate 8760 hours per year,

## **TECHNICAL EVALUATION AND PSD DETERMINATION**

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but approximately 1/3 of the year. Accordingly, the Department will establish BACT for this unique project at 0.0015%, but allow operation for only 1/3 of the year, or 2920 hours. In terms of circulating water flow usage, this is equivalent to 31.5E9 gallons per year, which will be established as a permit limit.

### **5.3 ADDITIONAL IMPACTS**

Because PM was the only pollutant that triggered a PSD review, a Class II air quality impact analysis as well as additional analysis of impacts due to the proposed project on soils, vegetation, visibility, growth, and air quality related values (AQRVs) in the nearest PSD Class I areas were not conducted (Rule 62-204.260 (1) and (2), F.A.C.).

In accordance with Rule 62-210.200 (243), F.A.C. PM<sub>10</sub> emissions are below the PSD significant emission rate. Therefore no air quality analysis is required.

### **6.0 CONCLUSION**

Based on the foregoing technical evaluation of the application, the Department has made a preliminary determination that the proposed project is capable of meeting the Department's air emission standards. The Division of Air Resource Management notes that based upon discussions with the Division of Water Resource Management, the implementation of this project is favorably received.

Michael P. Halpin, P.E.  
Department of Environmental Protection, Bureau of Air Regulation  
North Permitting Section  
2600 Blair Stone Road  
Tallahassee, Florida  
32399-2400

## P.E. Certification Statement

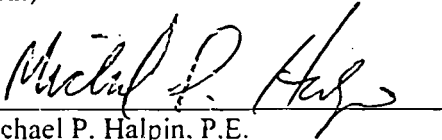
Progress Energy Florida  
Crystal River Energy Center  
Citrus County

DEP File No.: 0170004-010-AC  
Facility ID No.: 0170004

**Project:** Portable Cooling Towers

**I HEREBY CERTIFY** that the engineering features described in the above referenced application and related additional information submittals, if any, 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, and geological features).

(Seal)



Michael P. Halpin, P.E.  
Registration Number: 31970

2-22-06  
Date

Permitting Authority:  
Florida Department of Environmental Protection  
Division of Air Resource Management  
Bureau of Air Regulation  
North Permitting Section  
Mail Station #5505  
2600 Blair Stone Road  
Tallahassee, Florida 32399-2400

Telephone: 850/488-0114  
Fax: 850/922-6979

## Memorandum

# Florida Department of Environmental Protection

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TO: Trina Vielhauer

THRU: J. F. Koerner *JFK*

FROM: M. P. Halpin *MH*

DATE: February 22, 2006

SUBJECT: Crystal River Power Plant  
Portable Cooling Tower installation  
DEP File No. 0170004-010-AC, 0170004-011-AV

Attached is the public notice package for the Crystal River Power Plant. This is an existing facility comprised of 4 coal-fired steam generators and one nuclear powered steam generator.

The applicant has requested permission to install a set of portable cooling towers as a means of minimizing the possibility that Units 1 and 2 may be required to reduce output, in order to comply with a thermal discharge limit specified with the facility's NPDES permit. Based upon the submitted information and discussion with our Division of Water Resource Management, I find that the project is well-received. It should yield an environmental benefit, as well as allow the facility some flexibility.

A BACT review was required for PM emissions and the Public Notice provides for a 30 day comment period.

I recommend your approval.

JFK/mph

Attachments