



Jeb Bush  
Governor

# Department of Environmental Protection

Marjory Stoneman Douglas Building  
3900 Commonwealth Boulevard  
Tallahassee, Florida 32399-3000

David B. Struhs  
Secretary

April 26, 2002

CERTIFIED MAIL - RETURN RECEIPT REQUESTED

Ms. Farzie Shelton, Manager Environmental Affairs  
City of Lakeland Department of Electric Utilities  
501 East Lemon Street  
Lakeland, Florida 33801-5079

Re: Extension of Expiration Date of Permit No. PSD-FL-245; Facility ID 1050004  
McIntosh Unit No. 5 Combustion Turbine

The applicant, Ms. Farzie Shelton, Manager Environmental Affairs, applied on April 15, 2002, to the Department for an extension of the expiration date of PSD permit number PSD-FL-245 for its C.D. McIntosh, Jr. Power Plant Unit 5 located at 3030 East Lake Parker Drive, Lakeland, Polk County. The Department has reviewed the request. The expiration date is hereby extended from June 30, 2002 to March 31, 2003 to allow completion of unexpected repairs, recommissioning, testing and submittal of a complete Title V permit application.

A copy of this letter shall be filed with the referenced permit and shall become part of the permit. This permitting decision is issued pursuant to Chapter 403, Florida Statutes.

A person whose substantial interests are affected by the proposed permitting decision may petition for an administrative proceeding (hearing) under sections 120.569 and 120.57 of the Florida Statutes. The petition must contain the information set forth below and must be filed (received) in the Office of General Counsel of the Department at 3900 Commonwealth Boulevard, Mail Station #35, Tallahassee, Florida, 32399-3000. Petitions filed by the permit applicant or any of the parties listed below must be filed within fourteen days of receipt of this notice of intent. Petitions filed by any persons other than those entitled to written notice under section 120.60(3) of the Florida Statutes must be filed within fourteen days of publication of the public notice or within fourteen days of receipt of this notice of intent, whichever occurs first. Under section 120.60(3), however, any person who asked the Department for notice of agency action may file a petition within fourteen 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 of the Florida Administrative Code.

A petition that disputes the material facts on which the Department'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 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 indicate; (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 petitioner wishes the agency to take with respect to the agency's proposed action.

*"More Protection, Less Process"*

*Printed on recycled paper.*

A petition that does not dispute the material facts upon which the Department'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.

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

Mediation is not available in this proceeding.

In addition to the above, a person subject to regulation has a right to apply for a variance from or waiver of the requirements of particular rules, on certain conditions, under Section 120.542 F.S. The relief provided by this state statute applies only to state rules, not statutes, and not to any federal regulatory requirements. Applying for a variance or waiver does not substitute or extend the time for filing a petition for an administrative hearing or exercising any other right that a person may have in relation to the action proposed in this notice of intent.

The application for a variance or waiver is made by filing a petition with the Office of General Counsel of the Department, 3900 Commonwealth Boulevard, Mail Station #35, Tallahassee, Florida 32399-3000. The petition must specify the following information: (a) The name, address, and telephone number of the petitioner; (b) The name, address, and telephone number of the attorney or qualified representative of the petitioner, if any; (c) Each rule or portion of a rule from which a variance or waiver is requested; (d) The citation to the statute underlying (implemented by) the rule identified in (c) above; (e) The type of action requested; (f) The specific facts that would justify a variance or waiver for the petitioner; (g) The reason why the variance or waiver would serve the purposes of the underlying statute (implemented by the rule); and (h) A statement whether the variance or waiver is permanent or temporary and, if temporary, a statement of the dates showing the duration of the variance or waiver requested.

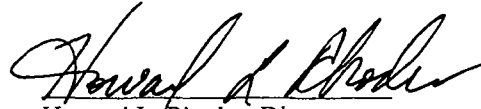
The Department will grant a variance or waiver when the petition demonstrates both that the application of the rule would create a substantial hardship or violate principles of fairness, as each of those terms is defined in Section 120.542(2) F.S., and that the purpose of the underlying statute will be or has been achieved by other means by the petitioner.

Persons subject to regulation pursuant to any federally delegated or approved air program should be aware that Florida is specifically not authorized to issue variances or waivers from any requirements of any such federally delegated or approved program. The requirements of the program remain fully enforceable by the Administrator of the EPA and by any person under the Clean Air Act unless and until the Administrator separately approves any variance or waiver in accordance with the procedures of the federal program.

This permitting decision is final and effective on the date filed with the clerk of the Department unless a petition is filed in accordance with the above paragraphs or unless a request for extension of time in which to file a petition is filed within the time specified for filing a petition pursuant to Rule 62-110.106, F.A.C., and the petition conforms to the content requirements of Rules 28-106.201 and 28-106.301, F.A.C. Upon timely filing of a petition or a request for extension of time, this order will not be effective until further order of the Department.

Any party to this permitting decision (order) has the right to seek judicial review of it under section 120.68 of the Florida Statutes, by filing a notice of appeal under Rule 9.110 of the Florida Rules of Appellate Procedure with the clerk of the Department of Environmental Protection in the Office of General Counsel, Mail Station #35, 3900 Commonwealth Boulevard, Tallahassee, Florida, 32399-3000, and by filing a copy of the notice of appeal accompanied by the applicable filing fees with the appropriate District Court of Appeal. The notice must be filed within thirty days after this order is filed with the clerk of the Department.

Executed in Tallahassee, Florida.



Howard L. Rhodes, Director  
Division of Air Resources  
Management

**CERTIFICATE OF SERVICE**

The undersigned duly designated deputy agency clerk hereby certifies that this order was sent by certified mail (\*) and copies were mailed by U.S. Mail before the close of business on 4/29/02 to the person(s) listed:

Farzie Shelton, City of Lakeland \*  
Kennard F. Kosky, P.E.  
Gregg Worley, EPA  
John Bunyak, NPS  
Gerald Kissel, DEP SWD  
Jeff Spence, Polk County, ESD  
Hamilton Oven, DEP PPSO

Clerk Stamp

**FILING AND ACKNOWLEDGMENT FILED**, on this date, pursuant to §120.52, Florida Statutes, with the designated Department Clerk, receipt of which is hereby acknowledged.

Victoria Gibson April 29, 2002  
(Clerk) (Date)



Farzie Shelton, chE; REM

Manager of Environmental Affairs

April 11, 2002

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APR 15 2002

BUREAU OF AIR REGULATION

Mr. Al Linero, P.E.; Administrator  
Bureau of Air Regulation  
New Source Review Section  
Florida Department of Environmental Protection  
Mail Station #5505  
2600 Blair Stone Road  
Tallahassee, Florida 32399-2400

Re: DEP FILE NO. 1050004-004-AC / PSD-FL-245  
C.D. MCINTOSH, JR. POWER PLANT, UNIT NO. 5

Dear Al:

This correspondence is submitted to request an extension for the expiration date of the above referenced permit. The construction permit expires June 30, 2002 and an extension until December 30, 2002 is requested. Initial compliance has not been certified for operation on either fuel oil or natural gas due to difficulties in the conversion from simple cycle to combined cycle mode. The enclosure signed and sealed by Mr. Tim Bachand (Manager of Engineering) describes the latest equipment failure on the combustion turbine that forced the latest shutdown. Additionally, we are requesting modification of this permit to facilitate the operation of this unit since it is restricted by certain operational practices as portrait in Mr. Bachand's memorandum. Therefore, we request the following conditions in this submittal:

1. During a normal "warm" start-up, following a normal shutdown, the unit shall not be operated for a period of more than 6 hours, with excess emissions. Once the unit first achieves emissions compliance, during a normal start, the unit shall not operate again with excess emissions, unless it is malfunctioning or it is shutdown. In that case, the unit shall not operate in this mode for more than 1 hour.
2. During a start-up, following a unit trip or runback, the unit shall not be operated for a period of more than 4 hours, with excess emissions. Once the unit first achieves emissions compliance, during a normal restart, the unit shall not operate again with excess emissions unless it is malfunctioning or it is shutdown. In that case, the unit shall not operate in this mode for more than 1 hour.

City of Lakeland • Department of Electric Utilities

501 East Lemon Street • Lakeland, FL 33801-5050 • (863) 834-6603 • Fax (863) 834-8187 • Message System 834-6592

farzie.shelton@lakelandgov.net

Mr. Al Linero, P.E.; Administrator  
April 11, 2002  
Page 2

3. During a normal "cold" start-up, following a normal shutdown of less than a week, the unit shall not be operated for a period of more than 16 hours, with excess emissions. Once the unit first achieves emissions compliance, during a normal start, the unit shall not operate again with excess emissions unless it is malfunctioning or it is shutdown. In that case, the unit shall not operate in this mode for more than 1 hour.
4. During a normal "cold" start-up, following an extended shutdown, the operator shall follow good industry practices and make every possible effort to start the unit in the least amount of required time and keep excess emissions at a minimum. Once the unit first achieves emissions compliance, during a normal restart, the unit shall not operate again with excess emissions unless it is malfunctioning or it is shutdown. In that case, the unit shall not operate in this mode for more than 1 hour.
5. The unit shall not be allowed more than one normal start-up and shutdown cycle in any given 24-hour period.

Please call if you have questions. Your expeditious handling of this request would be much appreciated.

Sincerely,



Farzie Shelton

Enclosure

Cc: Kennard F. Kosky, P.E.; Golder Associates

**City of Lakeland • Department of Electric Utilities**

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LAKELAND ELECTRIC MEMORANDUM

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APR 15 2002

To: Farzie Shelton  
From: Tim Bachand  
Date: April 11, 2002  
Subject: Unit 5 Construction Permit Extension and Modification

BUREAU OF AIR REGULATION

~~An access cover in the exhaust section of the turbine broke loose and damaged the Row 4 turbine blades in the process. Two of the blades are cracked and many have been bent. The unit is~~  
inoperable until these blades are replaced. Siemens Westinghouse Power Corp. (SWPC) began to disassemble the engine on March 12, 2002 and they had it ready for operation on April 4, 2002. The engine had a balance problem and had to be shut back down to do a balance shot. We are currently in the process of trying to restart the engine. While SWPC had the engine dismantled, they made some additional component changes in a continuing effort to correct some design problems they have been working on, over the last few months. These design changes will require significant modifications to the combustion tuning and will take additional time to correct.

SWPC has a similar project at the Millenium Facility in Massachusetts. They have put a limitation on fuel oil commissioning at McIntosh until this testing is completed at the Massachusetts facility (mid to late April 2002). We will only be allowed 50 hours of operation on fuel oil, if we are not able to complete the tuning and commissioning on within that time frame, we will have to stop the fuel oil commissioning effort. We may have to put this off until the fall, depending on SWPC's testing efforts.

An additional operational factor related to the current construction permit has been identified over the last few months while preparing the unit for combined cycle operation. The current permit No. 1050004-004-AC, PSD-FL-245 allows for excess emissions, due to start-up or shutdown, for a maximum of 4 hours in a 24-hour period for a "cold" start-up. The permit also allows 2 hours for a "warm" start-up. These conditions were adequate for simple cycle operation; however, McIntosh has been unable to achieve these times for combined cycle operation. The times required for compliance have been up to 8 hours for a "cold" start and up to 6 hours for a "warm" start. This is similar to the experience the other 501G users have had.

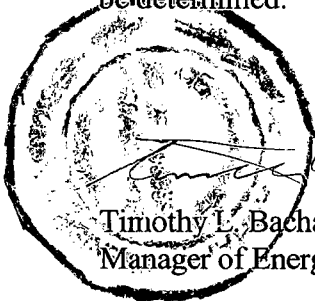
The primary factors preventing a faster start-up are the steam purity for the transition cooling system and differential expansion on the steam turbine. The steam purity process requires more time on combined cycle operation than it did on simple cycle operation. This variation is mainly due to the steam having to come off the drum type heat recovery steam generator (HRSG) during combined cycle as opposed to the once through steam generator used in simple cycle mode. The materials used in the combined cycle steam path must be protected from, a corrosive attack. During combined cycle, the combustion turbine is forced to sit at a low load while waiting for the

steam to clean up. Once the steam purity is achieved, the unit can increase load, but not high enough to achieve emissions compliance. This is where the steam turbine differential expansion becomes a problem. If the load is raised too fast, the steam temperature will increase quickly, causing a significant discrepancy between the turbine rotor temperature and the casing temperature. If this is not controlled properly, severe damage to the steam turbine will occur.

Any time the unit is shut down for a few weeks, even with proper HRSG lay-up, it will take an extended amount of time to clean up the steam. In this situation, McIntosh is looking at approximately 16-24 hours for the extended start-up. Any outage where the HRSG must be drained could require an extended start-up in the range of 48-72 hours or more. In an extreme case (i.e. following a chemical cleaning of the HRSG) the start-up time required could be as long as a week. The unit is expected to be cleaned in this manner every 4-6 years depending on experience with the unit. These outages are also due to the problems with using copper and iron in the combined cycle system and having to prevent corrosion.

The combined cycle HRSG is full of various steels and alloys. With any drum type steam generator, build up of iron scale and other deposits will occur in the drums and headers. When these materials get stirred up during the draining and filling of the HRSG it will take longer for the steam to clean up as compared to a normal shutdown and stand-by operation.

These start-up issues have not been completely solved due to the lack of opportunities to perform a "cold" start in combined cycle, many times. The combined cycle unit has only operated at baseload for a total of 100 hours since McIntosh began the conversion process in fall 2001. Based on the current operating plan, at least one extended outage is expected per year. However, with the continued problems with various engine components, it is more likely that more than one extended outage per year will be required. Until McIntosh has more actual experience starting up and operating this combined cycle unit, a better sense of actual start-up times cannot be determined.



Timothy L. Bachand, P.E.  
Manager of Energy Supply Engineering

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File TLB0402

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1. Article Addressed to:

Farzie Shelton  
 Manager of Environmental Affairs  
 City of Lakeland, Department of Electric Utilities  
 501 East Lemon Street  
 Lakeland, FL 33801-5079

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Bonnie Brenna 5-10

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Bonnie Brenna  Agent  
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