

Department of Environmental Protection

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

David B. Struhs Secretary

November 17, 2000

CERTIFIED MAIL - RETURN RECEIPT REQUESTED

Mr. Armando Rodriguez, Director Environmental Affairs Division Walt Disney World Co. Post Office Box 10000 Buena Vista, Florida 32830

Re: DEP File No. 0950111-018-AV Power Turbine Replacement

Dear Mr. Rodriguez:

We received your letter dated October 20, 2000 advising that the power turbine component of Reedy Creek's LM5000 combustion turbine will be replaced with an identical, overhauled, used component. We also reviewed the information from the presentation given by Reedy Creek and Walt Disney World personnel to our staff on November 16.

On the basis of the information provided (attached), the Department has concluded that the described work constitutes routine maintenance, repair or replacement. Therefore it is not a modification as defined in our rules at 62-210.200, F.A.C. No permit is required for the work.

This conclusion is applicable only to a first-time replacement (in lieu of repair) of this component for an LM5000 combustion turbine (with an aerodynamically-coupled power turbine). Please advise us if this component is replaced again in the future. It is possible that such work, coupled with additional work on other major components of the unit can constitute a modification as defined in our rules.

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.

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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.

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

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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 //////OO to the person(s) listed:

Armando Rodriguez, WDW*
Rich Bumar, WDW
Lee Schmudds, WDW
Elaine Potusky, WDW

Len Kozlov, DEP CD Gregg Worley, EPA John Bunyak, NPS Don Godwin, Reedy Creek

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.

Clerk)

Datal



October 20, 2000

Mr. Clair H. Fancy, P.E., Chief Bureau of Air Regulation Florida Department of Environmental Protection Twin Towers Office Building 2600 Blair Stone Road Tallahassee, FL 32399-2400 RECEIVED

OCT 23 2000

BUREAU OF AIR REGULATION

RE:

FDEP Permit 0950111-018-AV

Walt Disney World Co.

Gas Turbine Generator and Heat Recovery Steam Generator with Duct Burner

Dear Mr. Fancy:

The purpose of this correspondence is to provide notification that Reedy Creek Energy Services (RCES), on behalf of Reedy Creek Improvement District (RCID), will be replacing the power turbine component of the subject source over the course of the next three weeks. Replacement is necessitated by mechanical failure of the power turbine. While RCID and RCES believe that this component replacement may be "routine", we have concluded that, in any event, it does not constitute a "modification" since the replacement will not result in a net increase of actual emissions. Within this submittal is a discussion of the process equipment, the function of the power turbine in the process, the reasons for replacement of the power turbine, and emissions calculations.

Process Equipment

This unit is a combined cycle power plant consisting of an aero-derivative gas generator (jet engine), a free power turbine, a heat recovery steam generator, and a steam turbine generator plus supporting auxiliaries, with a combined nameplate capacity of 38 MW. The gas generator is a General Electric LM5000, which is derived from the GE CF6-50 turbofan aircraft engine. This gas generator exhausts into a free power turbine, which is also a General Electric product. The power turbine is connected to the electrical generator by shaft but not to the gas generator. The power turbine aerothermodynamically converts the available energy in the hot exhaust of the gas generator into rotational energy to drive the electrical generator.

The power turbine is composed of three stages of nozzles and blades with shaft bearings and seals. As such it does not consume fuel, nor create any emissions in and of itself. The gas generator and the power turbine share a lubricating oil system.



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Power Turbine Replacement

In May, 2000, the shared gas generator and power turbine synthetic oil lubricating system began exhibiting signs of contamination (resulting from exposure to high temperatures) and higher oil consumption. Since the lubrication systems are combined, a determination of the source of the problem could not be readily accomplished without isolating each component. There were no other signs of problems observed, such as bearing material in the chip detectors, high vibration, abnormal temperatures, etc., which could have led to the conclusion that the power turbine was malfunctioning. It was decided to continue to operate normally until such time as the lubrication systems could be appropriately separated to isolate the source of the problem. The lubrication systems were separated in September, 2000 and it was immediately discovered that the entire source of the oil contamination was the power turbine. Also at that time, the rate of oil consumption and contamination increased significantly and bearing material began appearing in the chip detectors. It was decided that the power turbine was no longer fit for further safe operation. At no time in the power turbine had impaired efficiency or reduced capacity of the plant.

Expected Power Turbine Life

Free power turbines can be expected to have a service life before major overhaul or replacement of between 50,000 and 100,000 hours. This power turbine has approximately 73,000 hours of service. Major power turbine overhauls can be expected to be required several times over the expected lifetime of a power plant of this type.

Decision to Repair or Replace

The decision to replace rather than overhaul the power turbine was due to the long overhaul time which would have effectively shut down this plant's electrical production for six to nine months, compared to a three-week time frame for the replacement.

Effect on Emissions

Replacement of the power turbine will have no effect upon annual emissions, hourly mass emissions, or concentrations of emissions of any of the regulated pollutants (i.e., NO_x, SO₂, PM, VOC, CO). As previously stated, the power turbine burns no fuel, and its replacement does not constitute an extension of its expected lifetime, will not operate more efficiently than the original, will not cause more hours of operation per year, nor in any other way result in more emissions than past actual levels.



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"Past-Actual" Calculation

Plant Emissions Summary 1995 – 1999

		Pollu	ıtant- Tons Pe	er Year		Fuel		
Year	СО	NOx	PM/PM10	SO2	VOC	Hours	NG MMft ³	#2FO Kgal
1995	17.3	230.5	2.1	0.3	0.0	7656	2090.2	0.0
1996	11.2	135.1	1.4	1.2	0.0	5022	1344.8	0.0
1997	5.7	81.0	0.7	0.6	0.0	2546	795.5	0.0
1998	5.1	232.4	2.7	2.1	0.0	6695	2129.7	154.3
1999	4.2	217.7	2.5	0.4	0.0	6472	1973.3	0.1

The average of the two highest consecutive years, 1998 and 1999 are:

	CO	NOx	PM/PM10	SO2	VOC
AVG	5.2	225.0	2.6	1.2	0.0

Based on our consideration of all relevant engineering and operational factors, we have concluded that the power turbine replacement will not result in an increase in short-term emission rates or an increase in annual emissions based on a comparison of past actual emissions and representative actual annual emissions. As an existing electric utility steam generating unit, we will submit to the Department information demonstrating that the power turbine replacement did not result in an emissions increase in accordance with Rule 62-210.200(12)(d), F.A.C. It is projected that any future increase in utilization of the unit could have been accommodated during the baseline period. Also, such increases would be unrelated to the power turbine replacement, and would be attributable to other factors, such as the rate of electricity demand growth for the system.

If you have any comments or questions regarding any of the information contained herein, please call Rich Bumar at (407) 939-4683 or Elaine Potusky at (407) 560-7119.

Armando Rodriguez

Sincerely.

Director, Environmental Affairs Division

cc: Rich Bumar, WDW Co.
Jeff Koerner, FDEP
Leonard Kozlov, FDEP

Elaine Potusky, WDW Co. Lee Schmudde, WDW Co.

U.S. Postal Service CERTIFIED MAIL RECEIPT (Domestic Mail Only: No Insurance Coverage Provided) ы 0 _ Article Sent To: ш Mr. Armando Rodriguez, Director ш ш Postage 士 Certified Fee Postmark Return Receipt Fee Here (Endorsement Required) Restricted Delivery Fee (Endorsement Required) 00hE Total Postage & Fees | \$ Name (Please Print Clearly) (to be completed by mailer) Mr. Armando Rodriguez 5 Street, Apt. No.; or PO Box No. PO Box 10000 • City, State, ZIP+4 Lake Buena Vista, FL 32830-1000 PS Form 3800, July 1999 See Reverse for Instructions