

# Florida Department of Environmental Regulation

Twin Towers Office Bldg. • 2600 Blair Stone Road • Tallahassee, Florida 32399-2400

Lawton Chiles, Governor

Carol M. Browner, Secretary

July 24, 1992

CERTIFIED MAIL-RETURN RECEIPT REQUESTED

Mr. Macauley Whiting, Jr., President  
Decker Energy - Ridge, Inc.  
P.O. Box 2397  
Winter Park, Florida 32790

Dear Mr. Whiting:

Attached is one copy of the Revised Technical Evaluation and Preliminary Determination and proposed permit for Ridge Generating Station to construct a wood/tire burning power generation facility near Auburndale, Polk County, Florida.

Please submit any written comments you wish to have considered concerning the Department's proposed action to Mr. Preston Lewis of the Bureau of Air Regulation.

Sincerely,

C. H. Fancy, P.E.  
Chief  
Bureau of Air Regulation

CHF/JR/plm

Attachments

c: W. Thomas, SWD  
R. Anders, Polk County  
J. Harper, EPA  
C. Shaver, NPS  
T. Fitzpatrick, P.E.  
M. Killeen, WESI  
J. Little, D&M  
R. Stone, RGS

STATE OF FLORIDA  
DEPARTMENT OF ENVIRONMENTAL REGULATION

CERTIFIED MAIL

In the Matter of an  
Application for Permit by:

DER File No. AC 53-206244  
PSD-FL-183  
Polk County

Decker Energy - Ridge, Inc.  
P.O. Box 2397  
Winter Park, Florida 32790

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INTENT TO ISSUE

The Department of Environmental Regulation gives notice of its intent to issue a permit (copy attached) for the proposed project as detailed in the application specified above, for the reasons stated in the attached Technical Evaluation and Preliminary Determination.

The applicant, Ridge Generating Station, L.P., applied on April 6, 1992, to the Department of Environmental Regulation for a permit to construct a wood/tire burning power generation facility near Auburndale in Polk County, Florida.

The Department has permitting jurisdiction under the provisions of Chapter 403, Florida Statutes and Florida Administrative Code (F.A.C.) Chapters 17-2 and 17-4. The project is not exempt from permitting procedures. The Department has determined that a construction permit is required for the proposed work.

Pursuant to Section 403.815, Florida Statutes and Rule 17-103.150, F.A.C., you (the applicant) are required to publish at your own expense the enclosed Notice of Intent to Issue Permit. The notice shall be published one time only within 30 days in the legal ad section of a newspaper of general circulation in the area affected. For the purpose of this rule, "publication in a newspaper of general circulation in the area affected" means publication in a newspaper meeting the requirements of Sections 50.011 and 50.031, F.S., in the county where the activity is to take place. The applicant shall provide proof of publication to the Department's Bureau of Air Regulation, 2600 Blair Stone Road, Tallahassee, Florida 32399-2400, within seven days of publication. Failure to publish the notice and provide proof of publication within the allotted time may result in the denial of the permit.

The Department will issue the permit with the attached conditions unless a petition for an administrative proceeding (hearing) is filed pursuant to the provisions of Section 120.57, F.S.

A person whose substantial interests are affected by the Department's proposed permitting decision may petition for an administrative proceeding (hearing) in accordance with Section 120.57, 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 2600 Blair Stone Road, Tallahassee, Florida 32399-2400. Petitions filed by the permit applicant and the parties listed below must be filed within 14 days of receipt of this intent. Petitions filed by other persons must be filed within 14 days of publication of the public notice or within 14 days of their receipt of this intent, whichever first occurs. Petitioner shall mail a copy of the petition to the applicant at the address indicated above at the time of filing. Failure to file a petition within this time period shall constitute a waiver of any right such person may have to request an administrative determination (hearing) under Section 120.57, Florida Statutes.

The Petition shall contain the following information;

- (a) The name, address, and telephone number of each petitioner, the applicant's name and address, the Department Permit File Number and the county in which the project is proposed;
- (b) A statement of how and when each petitioner received notice of the Department's action or proposed action;
- (c) A statement of how each petitioner's substantial interests are affected by the Department's action or proposed action;
- (d) A statement of the material facts disputed by Petitioner, if any;
- (e) A statement of facts which petitioner contends warrant reversal or modification of the Department's action or proposed action;
- (f) A statement of which rules or statutes petitioner contends require reversal or modification of the Department's action or proposed action; and
- (g) A statement of the relief sought by petitioner, stating precisely the action petitioner wants the Department to take with respect to the Department's action or proposed action.

If a petition is filed, the administrative hearing process is designed to formulate agency action. Accordingly, the Department's final action may be different from the position taken by it in this intent. Persons whose substantial interests will be affected by any decision of the Department with regard to the application have the right to petition to become a party to the proceeding. The petition must conform to the requirements specified above and be filed (received) within 14 days of receipt of this intent in the Office of General Counsel at the above address of the Department. Failure to petition within the allowed time frame constitutes a waiver of any right such person has to request a hearing under Section 120.57, F.S., and to participate as a party to this

proceeding. Any subsequent intervention will only be at the approval of the presiding officer upon motion filed pursuant to Rule 28-5.207, F.A.C.

Executed in Tallahassee, Florida.

STATE OF FLORIDA DEPARTMENT  
OF ENVIRONMENTAL REGULATION



C. H. Fancy, P.E., Chief  
Bureau of Air Regulation  
2600 Blair Stone Road  
Tallahassee, Florida 32399  
904-488-1344

CERTIFICATE OF SERVICE

The undersigned duly designated deputy clerk hereby certifies that this INTENT TO ISSUE and all copies were mailed by certified mail before the close of business on 7-27-92 to the listed persons.

Clerk Stamp

**FILING AND ACKNOWLEDGMENT**

FILED, on this date, pursuant to §120.52(11), Florida Statutes, with the designated Department Clerk, receipt of which is hereby acknowledged.



Clerk

7-27-92

Date

Copies furnished to:

W. Thomas, SWD  
R. Anders, Polk County  
J. Harper, EPA  
C. Shaver, NPS  
T. Fitzpatrick, P.E.  
M. Killeen, WESI  
J. Little, D&M  
R. Stone, RGS

STATE OF FLORIDA  
DEPARTMENT OF ENVIRONMENTAL REGULATION  
NOTICE OF INTENT TO ISSUE PERMIT

The Department of Environmental Regulation gives notice of its intent to issue a permit to Ridge Generating Station, P.O. Box 2397, Winter Park, Florida 32790, to construct a wood/tire burning power generation facility at State Road 542 and Taylor Road near Auburndale, Polk County, Florida. A determination of Best Available Control Technology (BACT) was required. The proposed project is subject to Prevention of Significant Deterioration (PSD) regulations. Modeling results show that increases in ground-level concentrations are less than PSD significant impact levels for the applicable pollutants. The Department is issuing this Intent to Issue for the reasons stated in the Technical Evaluation and Preliminary Determination.

A person whose substantial interests are affected by the Department's proposed permitting decision may petition for an administrative proceeding (hearing) in accordance with Section 120.57, 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 2600 Blair Stone Road, Tallahassee, Florida 32399-2400, within 14 days of publication of this notice. Petitioner shall mail a copy of the petition to the applicant at the address indicated above at the time of filing. Failure to file a petition within this time period shall constitute a waiver of any right such person may have to request an administrative determination (hearing) under Section 120.57, Florida Statutes.

The Petition shall contain the following information; (a) The name, address, and telephone number of each petitioner, the applicant's name and address, the Department Permit File Number and the county in which the project is proposed; (b) A statement of how and when each petitioner received notice of the Department's action or proposed action; (c) A statement of how each petitioner's substantial interests are affected by the Department's action or proposed action; (d) A statement of the material facts disputed by Petitioner, if any; (e) A statement of facts which petitioner contends warrant reversal or modification of the Department's action or proposed action; (f) A statement of which rules or statutes petitioner contends require reversal or modification of the Department's action or proposed action; and (g) A statement of the relief sought by petitioner, stating precisely the action petitioner wants the Department to take with respect to the Department's action or proposed action.

If a petition is filed, the administrative hearing process is designed to formulate agency action. Accordingly, 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 decision of the Department with regard to the application have the right to petition to become a party to the proceeding. The petition must conform to the requirements specified above and be filed (received) within 14 days of publication of this notice in the Office of General Counsel at the above address of the Department. Failure to petition within the allowed time frame constitutes a waiver of any right such person has to request a hearing under Section 120.57, F.S., and to participate as a party to this proceeding. Any subsequent intervention will only be at the approval of the presiding officer upon motion filed pursuant to Rule 28-5.207, F.A.C.

The application is available for public inspection during normal business hours, 8:00 a.m. to 5:00 p.m., Monday through Friday, except legal holidays, at:

Department of Environmental Regulation  
Bureau of Air Regulation  
2600 Blair Stone Road  
Tallahassee, Florida 32399-2400

Department of Environmental Regulation  
Southwest District  
4520 Oak Fair Blvd.  
Tampa, Florida 33610-7347

Any person may send written comments on the proposed action to Mr. Preston Lewis at the Department's Tallahassee address. All comments received within 30 days of the publication of this notice will be considered in the Department's final determination. Further, a public hearing can be requested by any person. Such requests must be submitted within 30 days of this notice.

Revised  
Technical Evaluation  
and  
Preliminary Determination

Ridge Generating Station  
Polk County, Florida

PSD-FL-183  
AC 53-206244

Department of Environmental Regulation  
Division of Air Resources Management  
Bureau of Air Regulation

July 24, 1992

## I. Application Information

### A. Applicant

Ridge Generating Station, L.P.  
P.O. Box 2397  
Winter Park, FL 32790

### B. Request

The Department received a complete application on April 6, 1992, for a permit to construct a 50 megawatt (MW) independent power generation facility known as the Ridge Generating Station (RGS) near Auburndale, Polk County, Florida. On June 22, 1992, the Department notified the applicant of the proposed permit conditions. On July 1, 1992, the applicant met with Department staff to request reconsideration of the applicant's proposed emission limits. The Department agreed to consider the permit limits originally proposed for SO<sub>2</sub>, NO<sub>x</sub> and CO as target limits for the initial startup and operation pending the outcome of an emissions testing program. It was also agreed that the applicant's emission calculation for mercury will not be rounded off to make the RGS facility initially subject to PSD requirements for that pollutant. Other revisions include clarification of the municipal waste exclusion, correction of the maximum tire firing rate (9,000 lbs/hr), and modification of compliance test method requirements.

### C. Classification/Location

The subject facility (SIC Code 4911) will be located at State Road 542 and Taylor Road near Auburndale, Florida. The UTM coordinates of the site are 416.7 km E and 3100.4 km N.

## II. Project Description/Emissions

The applicant proposes to construct a 50 MW power generation facility consisting of a solid-fuel boiler, steam turbine, generator, and associated equipment. The RGS boiler will fire a mixture of waste wood, scrap tires, and landfill gas. Propane will be used for boiler startup and combustion stabilization. Fuel mix possibilities include wood, wood and tires, or a combination of wood, tires, and landfill gas from the adjacent Polk County North Central Landfill. No other fuels will be used. The RGS facility will not be permitted to burn any hazardous waste or municipal type solid waste as defined in applicable federal and state regulations, except tires and waste wood.

State-of-the-art emission control equipment will include a spray dryer-absorber/fabric filter for control of particulates and acid gases as well as most toxics and metals. The spray dryer-absorber employs an atomized lime-water solution to react with sulfur dioxide in the boiler flue gases. The dried compounds of calcium thus formed will be removed by the fabric filter. Nitrogen oxides will be controlled by selective noncatalytic



reduction (SNCR) which reduces NO<sub>x</sub> to elemental nitrogen by injecting ammonia into the boiler furnace.

Since the hours of operation under each of the three scenarios are unknown, and since other fuel mix percentages will also occur, projections of maximum proposed annual emissions would have to be based on the maximums for these anticipated fuel mix cases. The applicant's estimated actual emissions for three anticipated fuel mix scenarios (based on heat input percentages using the applicant's proposed emission limits) are tabulated below.

	<u>100% Wood</u>		<u>80% Wood 20% Tires</u>		<u>75% Wood/15% Tires 10% Landfill Gas</u>		<u>PSD Level</u>
	<u>lbs/hr</u>	<u>tons/yr</u>	<u>lbs/hr</u>	<u>tons/yr</u>	<u>lbs/hr</u>	<u>tons/yr</u>	
PM/PM <sub>10</sub>	12.6	55.2	12.6	55.2	12.6	55.2	25/10
SO <sub>2</sub>	69.4	304.0	109.4	479.2	92.5	405.2	40
NO <sub>x</sub>	94.5	413.9	94.5	413.9	94.5	413.9	40
CO	315.0	1,379.7	315.0	1,379.7	315.0	1,379.7	100
VOC	22.1	96.8	22.1	96.8	22.1	96.8	40
NH <sub>3</sub>	17.8	78.0	17.8	78.0	17.8	78.0	-
C <sub>6</sub> H <sub>6</sub>	5.0	21.9	5.0	21.9	5.0	21.9	-
HCHO	1.7	7.5	1.7	7.5	1.7	7.5	-
HCL	5.0	22.1	5.0	22.1	5.0	22.1	-
Pb	0.25	1.1	0.25	1.1	0.25	1.1	0.6
Zn	0.63	2.8	0.63	2.8	0.63	2.8	-
Hg	0.02	0.097	0.02	0.097	0.02	0.097	0.1
Be	.0063	0.03	.0063	0.03	.0063	0.03	.0004

### III. Rule Applicability

The construction permit application is subject to review under Chapter 403, Florida Statutes, and Florida Administrative Code (F.A.C.) Chapters 17-2 and 17-4. The proposed facility is subject to the provisions of F.A.C. Rule 17-2.500, Prevention of Significant Deterioration (PSD). The facility is located in an area classified as attainment for all regulated air pollutants. Proposed emissions of PM/PM<sub>10</sub>, SO<sub>2</sub>, NO<sub>x</sub>, CO, VOC, Pb, and Be equal or exceed the significant levels set forth in Table 500-2 of F.A.C. Rule 17-2.500. Preconstruction review must include a determination of Best Available Control Technology (BACT), good-engineering practice stack height, ambient impact analysis, impact on soils, vegetation and visibility. Applicable emission limit rules are F.A.C. Rules 17-2.660, Table 660-1, Section 60.40b, Subpart Db, 60.43b (c)(1), (f) and (g), 60.44b (d), Standards of Performance for Industrial-Commercial-Institutional Steam Generating Units. For the ash handling system and lime silo, applicable rules are F.A.C. Rules 17-2.610(2) and (3). The above rules would dictate limits except that BACT limits are more stringent and therefore apply.

#### IV. Air Quality Analysis

##### a. Introduction

The operation of the proposed facility will result in emissions increases which are projected to be greater than the PSD significant emission rates for the following pollutants: NO<sub>x</sub>, SO<sub>2</sub>, PM, PM<sub>10</sub>, Be, CO, VOC, and Pb. Therefore, the project is subject to the PSD NSR requirements contained in F.A.C. Rule 17-2.500(5) for these pollutants. Part of these requirements is an air quality impact analysis for these pollutants, which includes:

- An analysis of existing air quality;
- A PSD increment analysis (for SO<sub>2</sub>, PM, PM<sub>10</sub>, and NO<sub>x</sub>);
- An ambient Air Quality Standards analysis (AAQS);
- An analysis of impacts on soils, vegetation, visibility and growth-related air quality impacts; and,
- A Good Engineering Practice (GEP) stack height determination.

The analysis of existing air quality generally relies on preconstruction monitoring data collected in accordance with EPA-approved methods. The PSD increment and AAQS analyses are based on air quality dispersion modeling completed in accordance with EPA guidelines.

Based on these required analyses, the Department has reasonable assurance that the proposed project, as described in this report and subject to the conditions of approval proposed herein, will not cause or contribute to a violation of any PSD increment or ambient air quality standard. A brief description of the modeling methods used and results of the required analyses follow. A more complete description is contained in the permit application on file.

##### b. Analysis of the Existing Air Quality

Preconstruction ambient air quality monitoring may be required for pollutants subject to PSD review. However, an exemption to the monitoring requirement can be obtained if the maximum air quality impact resulting from the projected emissions increase, as determined through air quality modeling, is less than a pollutant-specific de minimus concentration. The predicted maximum concentration increase for each pollutant subject to PSD (NSR) is given below:

	TSP					
	SO <sub>2</sub>	& PM <sub>10</sub>	NO <sub>x</sub>	CO	Be	Pb
PSD de minimus Concentra. (ug/m <sup>3</sup> )	13	10	14	575	0.001	0.1
Averaging Time	24-hr	24-hr	Annual	8-hr	24-hr	3 mo.
Maximum Predicted Impact (ug/m <sup>3</sup> )	4.4	0.5	0.4	35	.0003	<.01

There are no monitoring de minimus concentrations for VOC emissions. As shown above, the predicted impacts are all less than the corresponding de minimus concentrations; therefore, no preconstruction monitoring is required for these pollutants.

c. Modeling Method

The EPA-approved Industrial Source Complex Short-Term (ISCST) dispersion model was used by the applicant to predict the impact of the proposed project on the surrounding ambient air. All recommended EPA default options were used. No downwash effects were considered because the stack will be equal to the good engineering practice (GEP) stack height. Five years of sequential hourly surface and mixing depth data from the Tampa Florida National Weather Service (NWS) station collected during 1982 through 1986 were used in the model. Since five years of data were used, the highest-second-high (HSH) short-term predicted concentrations are compared with the appropriate ambient air quality standards or PSD increments. For the annual averages, the highest predicted yearly average was compared with the standards.

d. Modeling Results

The applicant first evaluated the potential increase in ambient ground-level concentrations associated with the project to determine if these predicted ambient concentration increases would be greater than specified PSD significant impact levels for criteria pollutants SO<sub>2</sub>, CO, NO<sub>2</sub>, PM and PM<sub>10</sub>. This evaluation was based on the proposed boiler operating at load conditions of 100, 75, and 50 percent. The modeling was performed using the highest emissions coupled with the lowest exit gas flow rates to maximize predicted impacts. Maximum modeled emissions were based on the use of the wood/tire combination for fuel. The maximum predicted concentrations occur for either the 100% or the 75% operating load. Dispersion modeling was performed with receptors placed along the 36 standard radial directions (10 degrees apart) surrounding the proposed unit beginning at 250m and going out at intervals of 250m to a distance of 3000m from the proposed boiler. The results of this modeling presented below show that the increases in ambient ground-level concentrations for all averaging times are less than the PSD significant impact levels for SO<sub>2</sub>, CO, NO<sub>2</sub>, PM and PM<sub>10</sub>.

Avg. Time PSD Signifi. Level (ug/m <sup>3</sup> )	SO <sub>2</sub>		NO <sub>2</sub>	CO		PM and PM <sub>10</sub>	
	Annual	3-hr 24-hr	Annual	1-hr	8-hr	Ann.	24-hr
	1.0	25.0 5.0	1.0	2000	500	1.0	5.0
Ambient Concen. Increase (ug/m <sup>3</sup> )	0.4	18.7 4.4	0.4	126	35	0.05	0.5

Therefore, further dispersion modeling for comparison with AAQS and PSD Class II increment consumption were not required for

these pollutants. There is currently no acceptable method to model VOC for ozone formation. Pb has no significant impact level; however, maximum predicted Pb concentrations were less than the 1.5 ug/m<sup>3</sup> quarterly ambient air quality standard.

Be and Hg are noncriteria pollutants, which means that neither national AAQS nor PSD Significant Impacts have been defined for these pollutants. However, the Department does have a draft Air Toxics Permitting Strategy, which defines no threat levels for these pollutants. The Department and the applicant have used the same modeling procedure described above to evaluate the maximum increase in ground level concentration of these pollutants for comparison with the no-threat levels. The results of this analysis are shown below:

Avg. Time	Be Annual	Hg Annual
No Threat-Level (ug/m <sup>3</sup> )	0.00042	0.3
Max. Concen. Increase	0.00002	0.00008

All of these values are less than their respective no-threat levels.

The nearest PSD Class I area is the Chassahowitzka National Wilderness Area located 100 km northwest of the facility. The predicted impact of the proposed project on this area was evaluated by first using the ISCST model to predict maximum increment consumptions by the source alone and by comparing these predicted values to the appropriate recommended significance levels to determine whether further modeling was necessary. The significance levels used by the Department were the more stringent National Park Service (NPS) recommended levels. The predicted maximum PM/PM<sub>10</sub> and NO<sub>2</sub> increment consumptions for all applicable averaging times were less than these significance levels. Therefore, no further modeling for PM/PM<sub>10</sub> and NO<sub>2</sub> was required. In addition, the predicted maximum SO<sub>2</sub> annual average increment consumption by the source alone was also below the NPS significance level. However, the predicted maximum SO<sub>2</sub> 24-hour and 3-hour concentrations were predicted to be greater than the NPS levels. The Department and the NPS directed the applicant to further evaluate the SO<sub>2</sub> short term impacts on the Class I area by using the long range transport model, Mesopuff. This model is more applicable for distances greater than 100km. Mesopuff model results show that the maximum predicted SO<sub>2</sub> 3-hour average increment consumption for the project alone is predicted to be below the NPS significance level of 0.48 ug/m<sup>3</sup>. Therefore, no further modeling was necessary for the SO<sub>2</sub> 3-hour averaging time. For the SO<sub>2</sub> 24-hour averaging case, Mesopuff results show that when the project alone is predicted to

have impacts greater than the NPS significance level of  $0.07 \text{ ug/m}^3$  (maximum predicted impact of  $0.09 \text{ ug/m}^3$ ) cumulative impacts from all modeled sources in the area are less than the PSD Class I increment of  $5.0 \text{ ug/m}^3$ .

e. Additional Impacts Analysis

A Level-1 screening analysis using the EPA model, VISCREEN was used to determine any potential adverse visibility impacts on the Class I Chassahowitzka National Wilderness Area located about 100km away. Based on this analysis, the maximum predicted visual impacts due to the proposed project are less than the screening criteria both inside and outside the Class I area. A comprehensive air quality related values (AQRV) analysis for this Class I area was performed by the applicant. No significant impacts on the Class I area are expected.

In addition, the maximum predicted concentrations from  $\text{NO}_x$ ,  $\text{CO}$ ,  $\text{SO}_2$ ,  $\text{PM}$  and  $\text{PM}_{10}$  are predicted to be less than the AAQS, including the national secondary standards designed to protect public welfare-related values. As such, no harmful effects on soil and vegetation are expected in the area of the project. Also, the proposed modification will not significantly change employment, population, housing or commercial/industrial development in the area to the extent that a significant air quality impact will result.

V. Air Toxics Evaluation

Based on extensive test data for other facilities that burn tires, only negligible quantities of toxic pollutants will escape the emission control equipment and therefore are of no environmental concern.

VI. Conclusion

Based on the information provided by Ridge Generating Station, the Department has reasonable assurance that the proposed installation, as described in this evaluation, and subject to the conditions proposed herein, will not cause or contribute to a violation of any air quality standard, PSD increment, or any other technical provision of Chapter 17-2 of the Florida Administrative Code.

*[Handwritten signature]*  
#41755



# Florida Department of Environmental Regulation

Twin Towers Office Bldg. • 2600 Blair Stone Road • Tallahassee, Florida 32399-2400

Lawton Chiles, Governor

Carol M. Browner, Secretary

**PERMITTEE:**  
Ridge Generating Station, L.P.  
P. O. Box 2397  
Winter Park, Florida 32790

**Permit Number:** AC 53-206244  
PSD-FL-183  
**Expiration Date:** December 31, 1995  
**County:** Polk  
**Project:** Wood/Tire Burning Power  
Generation Facility

This permit is issued under the provisions of Chapter 403, Florida Statutes, and Florida Administrative Code Chapters 17-2 and 17-4. The above named permittee is hereby authorized to perform the work or operate the facility shown on the application and approved drawings, plans, and other documents attached hereto or on file with the Department and made a part hereof and specifically described as follows:

For the construction of a 50 Megawatt power generation facility to be located at State Road 542 and Taylor Road near Auburndale, Polk County, Florida. The UTM coordinates are 416.7 km East and 3,100.4 km North.

The source shall be constructed in accordance with the permit application, plans, documents, amendments and drawings, except as otherwise noted in the General and Specific Conditions.

Attachments are listed below:

1. DER incompleteness letter dated 1-17-92.
2. RGS letter dated 3-19-92.
3. RGS letter dated 3-27-92.
4. RGS submittal received 4-6-92.

PERMITTEE:  
Ridge Generating Station, L.P.

Permit Number: AC 53-206244  
PSD-FL-183  
Expiration Date: December 31, 1995

**GENERAL CONDITIONS:**

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.

2. This permit is valid only for the specific processes and operations applied for and indicated in the approved drawings or exhibits. Any unauthorized deviation from the approved drawings, exhibits, specifications, or conditions of this permit may constitute grounds for revocation and enforcement action by the Department.

3. As provided in Subsections 403.087(6) and 403.722(5), Florida Statutes, the issuance of this permit does not convey any 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 of or approval of any other Department permit that may be required for other aspects of the total project which are not addressed in the permit.

4. This permit conveys no title to land or water, does not constitute State recognition or acknowledgement of title, and does not constitute authority for the use of submerged lands unless herein provided and the necessary title or leasehold interests have been obtained from the State. Only the Trustees of the Internal Improvement Trust Fund may express State opinion as to title.

5. This permit does not relieve the permittee from liability for harm or injury to human health or welfare, animal, or plant life, or property caused by the construction or operation of this permitted source, or from penalties therefore; nor does it allow the permittee to cause pollution in contravention of Florida Statutes and Department rules, unless specifically authorized by an order from the Department.

6. The permittee shall properly operate and maintain the facility and systems of treatment and control (and related appurtenances) that are installed or used by the permittee to achieve compliance with the conditions of this permit, as required by Department rules. This provision includes the operation of backup or

PERMITTEE:  
Ridge Generating Station, L.P.

Permit Number: AC 53-206244  
PSD-FL-183  
Expiration Date: December 31, 1995

**GENERAL CONDITIONS:**

auxiliary facilities or similar systems when necessary to achieve compliance with the conditions of the permit and when required by Department rules.

7. The permittee, by accepting this permit, specifically agrees to allow authorized Department personnel, upon presentation of credentials or other documents as may be required by law and at a reasonable time, access to the premises, where the permitted activity is located or conducted to:

- a. Have access to and copy any records that must be kept under the conditions of the permit;
- b. Inspect the facility, equipment, practices, or operations regulated or required under this permit; and
- c. Sample or monitor any substances or parameters at any location reasonably necessary to assure compliance with this permit or Department rules.

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

8. If, for any reason, the permittee does not comply with or will be unable to comply with any condition or limitation specified in this permit, the permittee shall immediately provide the Department with the following information:

- a. a description of and cause of non-compliance; and
- b. the period of noncompliance, including dates and times; or, if not corrected, the anticipated time the non-compliance is expected to continue, and steps being taken to reduce, eliminate, and prevent recurrence of the non-compliance.

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

9. In accepting this permit, the permittee understands and agrees that all records, notes, monitoring data and other information relating to the construction or operation of this permitted source which are submitted to the Department may be used by the Department as evidence in any enforcement case involving the permitted source arising under the Florida Statutes or Department rules, except



PERMITTEE:  
Ridge Generating Station, L.P.

Permit Number: AC 53-206244  
PSD-FL-183  
Expiration Date: December 31, 1995

**GENERAL CONDITIONS:**

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.

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.

11. This permit is transferable only upon Department approval in accordance with Florida Administrative Code Rules 17-4.120 and 17-30.300, F.A.C., as applicable. The permittee shall be liable for any non-compliance of the permitted activity until the transfer is approved by the Department.

12. This permit or a copy thereof shall be kept at the work site of the permitted activity.

13. This permit also constitutes:

- (x) Determination of Best Available Control Technology (BACT)
- (x) Determination of Prevention of Significant Deterioration (PSD)
- (x) Compliance with New Source Performance Standards (NSPS)

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 for this permit. These materials shall be retained at least

**PERMITTEE:**  
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**GENERAL CONDITIONS:**

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:

- the date, exact place, and time of sampling or measurements;
- the person responsible for performing the sampling or measurements;
- the dates analyses were performed;
- the person responsible for performing the analyses;
- the analytical techniques or methods used; and
- the results of such analyses.

15. When requested by the Department, the permittee shall within a reasonable time furnish any information required by law which is needed to determine compliance with the permit. If the permittee becomes aware that relevant facts were not submitted or were incorrect in the permit application or in any report to the Department, such facts or information shall be corrected promptly.

**SPECIFIC CONDITIONS:**

1. Unless otherwise indicated, the construction and operation of the Ridge Generating Station (RGS) facility shall be in accordance with the capacities and specifications stated in the revised application.

2. The RGS facility shall be allowed to operate at a maximum capacity of 50 Megawatts (approximately equivalent to 630 MMBtu/hr) for 8,760 hours per year.

3. Fuel for firing the RGS boiler shall consist only of wood, landfill gas, and up to 9.0 percent tires (percent by weight equivalent to 20 percent tires based on heat content). The 9.0 percent tire weight limitation is equivalent to a tire firing rate of 9,000 pounds of tires per hour. Propane may be used as a startup, shutdown, and combustion stabilization fuel.

4. No municipal type solid waste, as defined in 40 CFR 60, Subpart Ea (except tires and waste wood), or hazardous waste, as defined in 40 CFR 261 and F.A.C. Rule 17-730.020, shall be burned at any time at the RGS facility.

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**SPECIFIC CONDITIONS:**

5. Initially, the RGS boiler exhaust gases shall not exceed the limits shown below. Following completion of the emission testing program required in Specific Condition No. 8, these limits may be revised.

<u>Pollutant</u>	<u>Basis(lb/MMBTU)</u>	<u>Lbs/hr*</u>	<u>Tons/yr</u>
PM/PM <sub>10</sub>	0.02	12.6	55.2
SO <sub>2</sub>	0.17	109.4	479.2
NO <sub>x</sub>	0.15	94.5	413.9
CO	0.50	315.0	1,379.7
VOC	0.035	22.1	96.8
HCL	0.008	5.0	22.1
Hg	0.000035	0.022	0.097
Pb	0.0004	0.25	1.1
Be	0.00001	0.0063	0.03

\*Based on 24 hour average. The feasibility of establishing startup/shutdown limits, hourly limits, or rolling average limits in addition to or in lieu of the above limits will be determined after analysis of test data.

6. SNCR chemical injection into the boiler exhaust gases shall be provided by an automated control system as described in the application. Ammonia emissions shall be continuously monitored at a prevailing downwind location on the RGS property line by commercially available ambient monitoring equipment. The monitoring data shall be collected and reported for the entire operating period from the initial startup to the time that the emissions test program is completed. Thereafter, the monitoring data shall be collected and stored and made available to the Department upon request.

7. Visible emissions from the RGS boiler stack, the fly ash silo vent filter, and the lime silo vent filter shall not exceed 10 percent opacity.

8. In lieu of the usual compliance test requirement, the RGS facility shall, at least six months prior to initial startup of the RGS facility, propose for Department approval a comprehensive emissions testing program representative of the full range of facility operation as stated in the application. It will include continuous emission monitoring (CEM) stack data for SO<sub>2</sub>, NO<sub>x</sub> and

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CO, and stack emission tests for each limited pollutant at 50 percent, 75 percent, and 100 percent of permitted capacity for wood and tires. The emissions testing program shall be completed and results submitted as required in Specific Condition No. 16 within fifteen months after the initial startup. The following EPA test methods or other methods approved by the Department shall be followed:

<u>Pollutant</u>	<u>Test Method</u>
VE	9
PM/PM <sub>10</sub>	5 (front half only)
SO <sub>2</sub>	6C
NO <sub>x</sub>	7E
CO	10
VOC	25A
HCl	26
Hg	101A
Pb	12
Be	104

9. As part of the required emissions testing program, the permittee shall sample the RGS boiler stack for the following pollutants after proposing acceptable test methods to the Department's Bureau of Air Regulation in Tallahassee. The results of these additional tests shall be reported in lbs/hr and ug/m<sup>3</sup> along with the initial compliance test results: Ammonia, Arsenic, Cadmium, Chromium (total), Chromium VI, Zinc Oxide, Benzene, Sulfuric Acid, Polychlorinated Biphenyls (PCBs), Dioxins/Furans.

10. Continuous monitoring equipment shall be installed and operated to measure and record generator output, furnace temperature, stack opacity, and SO<sub>2</sub>, NO<sub>x</sub> and CO emissions. The tire feed rate in pounds per hour shall be monitored continuously by a commercially available weight detecting system with recording capability, or another method approved by the Department. The tire feed rate data shall be maintained and provided to the Department upon request.

11. Fugitive emissions from the RGS material receiving, processing, storage and transfer operations shall be determined according to EPA Method 22 over a 3-day period that is representative of typical operation. Results of the fugitive emissions survey shall be reported along with the results of the emissions testing program.

12. All reasonable precautions set forth in F.A.C. Rule 17-2.610(3), as well as all measures proposed by the permittee in

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the application, shall be taken by the permittee to prevent fugitive emissions.

13. In the event of any malfunction resulting in failure of emission control equipment or any malfunction of process equipment resulting in emissions exceeding limits set forth in Specific Condition No. 5, the operator shall immediately stop the feeding of tires into the boiler and shall use propane firing, if necessary, to maintain a minimum of 1800 degrees F in the combustion zone until all tires in the system have been combusted. No tires may be refeed into the boiler following the malfunction until the emission control equipment has been put into proper working order.

14. Whenever the baghouse bypass is activated during an on-line operating situation for any reason, the permittee shall, within 24 hours, provide the Department's Southwest District Office with a complete report of the circumstances and reasons for the occurrence, indicating the amounts of pollutants estimated to have been discharged during the bypass period.

15. No pollutants shall be discharged from the RGS facility which cause or contribute to an objectionable odor (F.A.C. Rule 17-2.620(2)).

16. Results of the emissions testing program and other required submittals shall be submitted to the Department's Southwest District office and the Department's Bureau of Air Regulation office in Tallahassee within fifteen months after initial startup of the RGS facility. Sampling facilities, methods, and reporting shall be in accordance with F.A.C. Rule 17-2.700 and 40 CFR 60, Appendix A. The Department's Southwest District office shall be notified at least 30 days prior to each emission test conducted in the testing program. Along with the submittal to the Department's Bureau of Air Regulation office, the permittee shall include a revised BACT application.

17. Within 90 days of receipt of the revised BACT application and other required submittals, the Department's Bureau of Air Regulation in Tallahassee shall revise the BACT determination and permit limits and conditions as appropriate with the goal of allowing the RGS facility to be operated in an environmentally responsible manner. Revisions may include additional emission limits for other air pollutants as well as separate limits for specific operating conditions. Except for mercury abatement, the BACT control technology would not be revised in the Department's final BACT determination.

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18. 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 in Tallahassee prior to 60 days before the expiration of the permit (F.A.C. Rule 17-4.090)

19. An application for an operation permit including an operation and maintenance plan must be submitted to the Department's Southwest District office at least 90 days prior to the expiration date of the revised construction permit. To properly apply for an operation permit, the applicant shall submit the appropriate application form, fee, certification that construction was completed noting any deviations from the conditions in the construction permit, and compliance test reports as required by this permit (F.A.C. Rule 17-4.220).

Issued this \_\_\_\_\_ day  
of \_\_\_\_\_, 1992

**STATE OF FLORIDA DEPARTMENT  
OF ENVIRONMENTAL REGULATION**

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Carol M. Browner, Secretary  
Department of Environmental  
Regulation

Best Available Control Technology (BACT) Determination  
Ridge Generating Station  
Polk County

The applicant proposes to construct a 50 MW power generation facility to be named the Ridge Generating Station and located near Auburndale in Polk County, Florida. The facility will consist of a solid fuel boiler, steam turbine, generator and associated equipment. Fuel for the facility will consist of a mixture of waste wood, scrap tires, and landfill gas.

A BACT determination is required for all regulated air pollutants emitted in amounts equal to or greater than the significant emission rates listed in Table 500-2 of Florida Administrative Code (F.A.C.) Rule 17-2.500. Maximum annual emissions proposed by the applicant are tabulated below and in the Technical Evaluation and Preliminary Determination. Maximum allowable emissions as determined from the BACT determination are listed below in tons per year (based on burning 80% wood/20% tires):

<u>Pollutant</u>	<u>Maximum Allowable Emissions</u> (tons per year)		<u>PSD Level</u>
	<u>Proposed by RGS</u>	<u>Proposed by DER</u>	
PM/PM <sub>10</sub>	55.2	55.2	25/10
SO <sub>2</sub>	479.2	275.9*	40
NO <sub>x</sub>	413.9	303.5*	40
CO	1,379.7	579.5*	100
VOC	96.6	96.6	40
HCL	22.1	22.1	-
Hg	0.1	0.1	0.1
Pb	1.1	1.1	0.6
Be	0.03	0.03	0.0004

\*Limits not to be enforced until final determination based on emission testing program.

Date of Receipt of a Complete Application

April 6, 1992

BACT Determination Requested by Applicant

Control Technology: Spray Dryer-Absorber/Fabric Filter  
Selective Noncatalytic Reduction (SNCR)  
Combustion Efficiency

Emission Limits: PM/PM<sub>10</sub> 0.02 lb/MMBTU  
SO<sub>2</sub> 0.17 lb/MMBTU

NO <sub>x</sub>	0.15 lb/MMBTU
CO	0.50 lb/MMBTU
VOC	0.035 lb/MMBTU
Pb	0.0004 lb/MMBTU
Be	0.00001 lb/MMBTU

BACT Determined by the Department

Control Technology: Spray Dryer-Absorber/Fabric Filter  
Selective Noncatalytic Reduction (SNCR)  
Combustion Efficiency

Emission Limits: 1b/MMBtu

	<u>Initial Maximum Limits*</u>	<u>Estimated Acheivable Limit</u>
PM/PM <sub>10</sub>	0.02	-
SO <sub>2</sub>	0.17	0.10
NO <sub>x</sub>	0.15	0.11
CO	0.50	0.21
VOC	0.035	-
Pb	0.0004	-
Be	0.00001	-

\*Initial limits to be revised as necessary following emission testing program.

BACT Determination Procedure

In accordance with F.A.C. Chapter 17-2, this BACT determination is based on the maximum degree of reduction of each pollutant emitted which the Department, on a case by case basis, taking into account energy, environmental and economic impacts, and other costs, determines is achievable through application of production processes and available control methods, systems and techniques. In addition, the regulations require that in making the BACT determination the Department shall give consideration to:

- (a) Any Environmental Protection Agency determination of Best Available Control Technology pursuant to Section 169, and any emission limitation contained in 40 CFR Part 60 (Standards of Performance for New Stationary Sources) or 40 CFR Part 61 (National Emission Standards for Hazardous Air Pollutants).
- (b) All scientific, engineering and technical material and other information available to the Department.
- (c) The emission limiting standards or BACT determinations of any other State.



- (d) The social and economic impact of the application of such technology.

The EPA currently stresses that BACT should be determined using the "top-down" approach. The first step in this approach is to determine for the emission source in question the most stringent control available for a similar or identical source or source category. If it is shown that this level of control is technically or economically infeasible for the source in question, then the next most stringent level of control is determined and similarly evaluated. This process continues until the BACT level under consideration cannot be eliminated by any substantial or unique technical, environmental, or economic objections.

#### BACT Determination Rationale

Irrespective of control technology economics, the Department believes that the applicant has selected the best control technology available based on a review of the literature and permit requirements for similar facilities. However, the applicant's final BACT proposal should include a detailed analysis of the economic justification for the control systems selected, since all of the economic data will be available by that time.

A review of EPA's BACT/LAER Clearinghouse indicates that there are no existing sources using the fuel mix proposed for the RGS facility. Since there are significant differences between existing wood/tire burning units and the proposed RGS facility, and since this facility is the first of its kind, the only reasonable approach would involve a two-step procedure for the BACT determination and permit; a preliminary followed by a final determination based on the results of the required emissions testing program. This two-step procedure will require that the applicant propose final enforceable BACT limits and permit conditions and that the Department issue a final BACT determination with permit revisions as indicated by the emissions testing results. Therefore, the Department has proposed enforceable initial emission limits and target emission limits for SO<sub>2</sub>, NO<sub>x</sub> and CO that are to be adjusted as necessary and made enforceable following completion of an emissions testing program. The target limits are based on the more stringent permit limits listed in the BACT/LAER Clearinghouse data.

#### Details of the Analysis May be Obtained by Contacting:

Preston Lewis, P.E., BACT Coordinator  
Department of Environmental Regulation  
Bureau of Air Regulation  
Twin Towers Office Building  
2600 Blair Stone Road  
Tallahassee, Florida 32399-2400

Recommended by:

Approved by:

\_\_\_\_\_  
C. H. Fancy, P.E., Chief  
Bureau of Air Regulation

\_\_\_\_\_  
Carol M. Browner, Secretary  
Dept. of Environmental Regulation


\_\_\_\_\_  
Date 1992

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Date 1992

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3. Article Addressed to: <i>Mr. Macauley Whiting, Jr.</i> <i>Decker Energy-Ridge Inc</i> <i>P.O. Box 2397</i> <i>Winter Park, FL</i> <i>32790</i>		4a. Article Number <i>P 710 058 523</i>	
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