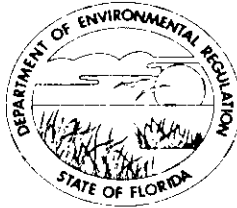


STATE OF FLORIDA  
DEPARTMENT OF ENVIRONMENTAL REGULATION

TWIN TOWERS OFFICE BUILDING  
2600 BLAIR STONE ROAD  
TALLAHASSEE, FLORIDA 32399-2400



BOB MARTINEZ  
GOVERNOR  
DALE TWACHTMANN  
SECRETARY

December 18, 1987

CERTIFIED MAIL-RETURN RECEIPT REQUESTED

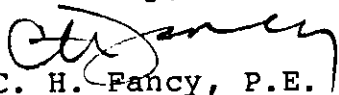
J. Michael Colvin, Vice President  
LGM Engineers Constructors  
NRG Recovery Group  
1616 Athens Street  
Lakeland, Florida 33803

Dear Mr. Colvin:

Attached is one copy of the amended Technical Evaluation and Preliminary Determination and proposed amended permit for Lake County Waste to Energy Facility NRG Recovery Group to construct two 250 tons per day (design capacity) municipal solid waste fired combustors which will generate steam and produce nominally 12.3 megawatts of electricity. The proposed waste recovery facility will be located on Jim Rogers Road, Okahumpka, Lake County, Florida.

Please submit, in writing, any comments which you wish to have considered concerning the Department's proposed action to Mr. Bill Thomas of the Bureau of Air Quality Management.

Sincerely,

  
C. H. Fancy, P.E.  
Deputy Chief  
Bureau of Air Quality  
Management

CHF/bm

Attachments

cc: Tom Sawicki, CF Dist  
Barry Andrews, DER  
Tom Rogers, DER  
Wayne Aronson, EPA  
Miguel Flores, NPS  
R. V. Chalfant, LGM  
Dan Robuck, Esq.  
Walt Walters, NRG

P 274 007 617

RECEIPT FOR CERTIFIED MAIL

NO INSURANCE COVERAGE FOR LOSS OR DAMAGE TO MAIL

(See Reverse)

Sent to Michael Colvin, V.P.

LGM-Engineers-Constructors

1616 Athens Street

Lakeland, FL 33803

Postage

Carriage Fee

Social Security Fee

Restricted Delivery Fee

Return Receipt showing date delivered

Date and address of delivery

Postage and Fees

Postmark of Date

Mailed: 12-21-87

Permit: AC 35-115379

Federal: PSD-FL-113

PS Form 3811, June 1983

U.S. POSTAL SERVICE

**SENDER: Complete items 1, 2, 3 and 4.**

Put your address in the "RETURN TO" space on the reverse side. Failure to do this will prevent this card from being returned to you. The return receipt fee will provide you the name of the person delivered to and the date of delivery. For additional fees the following services are available. Consult postmaster for fees and check box(es) for service(s) requested.

Show to whom, date and address of delivery.

Restricted Delivery.

3. Article Addressed to: J. Michael Colvin, V.P.  
LGM Engineers Constructors  
NRG Recovery Group  
1616 Athens Street  
Lakeland, FL 33803

4. Type of Service:  
 Registered  
 Certified  
 Insured  
 COD  
 Express Mail  
 Article Number P 274 007 617

Always obtain signature of addressee or agent and DATE DELIVERED.

5. Signature - Address X  
5. Signature - Agent X

6. Signature - Agent X  
X Michael Colvin  
Matters

7. Date of Delivery  
12-21-87

8. Addressee's Address (ONLY if requested and fee paid)  
Lakeland, FL 33803

U.S. POSTAL SERVICE  
1987  
LAKELAND, FL 33803

PS Form 3811, July 1983 447-845 DOMESTIC RETURN RECEIPT

State of Florida  
Department of Environmental Regulation  
Notice of Intent

The Department of Environmental Regulation hereby gives notice of its intent to issue an amended permit to Lake County Waste to Energy Facility, NRG Recovery Group to construct two 250 tons per day (design capacity) municipal solid waste fired combustors equipped with acid gas controls which will generate steam and produce nominally 12.3 megawatts of electricity. The proposed waste recovery facility will be located on Jim Rogers Road, Ikaumpka, Lake County, Florida. The Department is issuing this Intent to Issue for the reasons stated in the attached Technical Evaluation and Preliminary Determination.

Persons whose substantial interests are affected by the Department's proposed permitting decision may petition for an administrative determination (hearing) in accordance with Section 120.57, Florida Statutes. The petition must conform to the requirements of Chapters 17-103 and 28-5, Florida Administrative Code, and must be filed (received) in the Department's Office of General Counsel, 2600 Blair Stone Road, Twin Towers Office Building, Tallahassee, Florida 32399-2400, within fourteen (14) days of publication of this notice. Failure to file a petition within this time period constitutes a waiver of any right such person has to request an administrative determination (hearing) under Section 120.57, Florida Statutes.

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 proposed agency action. Therefore, persons who may not wish to file a petition may wish to intervene in the proceeding. A petition for intervention must be filed pursuant to Rule 28-5.207, Florida Administrative Code, at least five (5) days before the final hearing and be filed with the hearing officer if one has been assigned at the Division of Administrative Hearings, Department of Administration, 2009, Apalachee Parkway, Tallahassee, Florida 32301. If no hearing officer has been assigned, the petition is to be filed with the Department's Office of General Counsel, 2600 Blair Stone Road, Tallahassee, Florida 32399-2400. Failure to petition to intervene within the allowed time frame constitutes a waiver of any right such person has to request a hearing under Section 120.57, Florida Statutes.

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:

Dept. of Environmental Regulation  
Bureau of Air Quality Management  
2600 Blair Stone Road  
Tallahassee, Florida 32399-2400

Dept. of Environmental Regulation  
Central Florida District Office  
3319 Maguire Blvd., Suite 232  
Orlando, Florida 32803-3767

Any person may send written comments on the proposed action to Mr. Bill Thomas at the Department's Tallahassee address. All comments mailed within 30 days of the publication of this notice will be considered in the Department's final determination.

BEFORE THE STATE OF FLORIDA  
DEPARTMENT OF ENVIRONMENTAL REGULATION

In the Matter of  
Application for Permit by:

Lake County Waste to Energy  
NRG Recovery Group  
1616 Athens Street  
Lakeland, Florida 33803

DER File No. AC 35-115379  
Federal: PSD-FL-113

---

INTENT TO ISSUE

The Department of Environmental Regulation hereby gives notice of its intent to issue an amended permit (copy attached) to Lake County Waste to Energy Facility NRG Recovery Group to construct two 250 tons per day (design capacity) municipal solid waste fired combustors equipped with acid gas controls which will generate steam and produce nominally 12.3 megawatts of electricity. The proposed waste recovery facility will be located on Jim Rogers Road, Okahumpka, Lake County, Florida. The Department is issuing this Intent to Issue for the reasons stated in the attached Technical Evaluation and Preliminary Determination.

The applicant, Lake County Waste to Energy Facility, NRG Recovery Group, applied on October 27, 1987, to the Department of Environmental Regulation for a construction permit.

The Department has permitting jurisdiction under Chapter 403, Florida Statutes (F.S.), and Florida Administrative Code (FAC) Rules 17-2 and 17-4. The project is not exempt from permitting procedures. The Department has determined that an air construction permit was needed for the proposed work. A section of a major local newspaper of general circulation in the county in which the project is located and within thirty (30) days from receipt of this intent. Proof of publication must be provided to the Department within seven days of publication of the notice. 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 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, F.S. Petitions must comply with the requirement of FAC Rules 17-103.155 and 28-5.201 (copies enclosed) and be filed with (received by) the Office of General Counsel of the Department at 2600 Blair Stone Road, Tallahassee, Florida 32399-2400. Petitions filed by the permit applicant must be filed within fourteen (14) days of receipt of this intent. Petitions filed by other persons must be filed within fourteen (14) days of publication of the public notice or within fourteen (14) days of receipt of this intent, whichever first occurs. 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, F.S., concerning the subject permit application. Petitions which are not filed in accordance with the above provisions will be dismissed.

Executed in Tallahassee, Florida.

STATE OF FLORIDA DEPARTMENT  
OF ENVIRONMENTAL REGULATION



C. H. Fancy, P.E.  
Deputy Chief  
Bureau of Air Quality  
Management

Copies furnished to:

Tom Sawicki, CF Dist.  
Barry Andrews, DER  
Tom Rogers, DER  
Wayne Aronson, EPA

Miguel Flores, NPS  
R. V. Chalfant, LGM  
Dan Robuck, Esq.  
Walt Walters, NRG

RULES OF THE ADMINISTRATIVE COMMISSION  
MODEL RULES OF PROCEDURE  
CHAPTER 28-5  
DECISIONS DETERMINING SUBSTANTIAL INTERESTS

28-5.15 Requests for Formal and Informal Proceedings

- (1) Requests for proceedings shall be made by petition to the agency involved. Each petition shall be printed, typewritten or otherwise duplicated in legible form on white paper of standard legal size. Unless printed, the impression shall be on one side of the paper only and lines shall be double spaced and indented.
- (2) All petitions filed under these rules should contain:
  - (a) The name and address of each agency affected and each agency's file or identification number, if known;
  - (b) The name and address of the petitioner or petitioners;
  - (c) All disputed issues of material fact. If there are none, the petition must so indicate;
  - (d) A concise statement of the ultimate facts alleged, and the rules, regulations and constitutional provisions which entitle the petitioner to relief;
  - (e) A statement summarizing any informal action taken to resolve the issues, and the results of that action;
  - (f) A demand for the relief to which the petitioner deems himself entitled; and
  - (g) Such other information which the petitioner contends is material.

CERTIFICATE OF SERVICE

The undersigned duly designated deputy clerk hereby certifies that this NOTICE OF INTENT TO ISSUE and all copies were mailed before the close of business on 12-21-87.

FILING AND ACKNOWLEDGEMENT  
FILED, on this date, pursuant to  
§120.52(9), Florida Statutes, with  
the designated Department Clerk,  
receipt of which is hereby  
acknowledged.

Martha J. Wise 12-21-87  
Clerk Date



Technical Evaluation  
and  
Preliminary Determination  
For Amended Permit Conditions

Lake County Waste to Energy Facility  
Lake County  
Okahumpka, Florida

Waste to Energy Units 1 and 2

Permit Numbers:  
AC 35-115379  
PSD-FL-113

Florida Department of Environmental Regulation  
Bureau of Air Quality Management  
Central Air Permitting

December 18, 1987

## I. Project Description

### A. Applicant

NRG/Recovery Group  
1616 Athens Street  
Lakeland, Florida 33803

### B. Project

The applicant proposes to amend a permit which was issued to construct two 250 tons per day (design capacity) municipal solid waste fired combustors which will generate steam and produce nominally 12.3 megawatts of electricity. The proposed waste recovery facility will be located on Jim Rogers Road, Okahumpka, Lake County, Florida. The universal transverse mercator coordinates of the source are: Zone 17, 413.1 km East and 3179.3 km North.

## II. Background

On March 11, 1986, the NRG/Recovery Group applied to the Florida Department of Environmental Regulation (DER) for a Prevention of Significant Deterioration (PSD) Permit to Construct the Lake County Waste to Energy Facility.

On September 24, 1986, Florida DER issued its Final Determination and PSD permit for the proposed Lake County facility, Permit Numbers: AC 35-115379 and PSD-FL-113. The permit included specific stack emission limits which were proposed to be met with the use of a high efficiency electrostatic precipitator (ESP). The permit further required that space be provided to allow for the retrofit of additional acid gas and air pollutant emission control equipment, as may be required by subsequent rule. No adverse environmental impact from the proposed facility using only the ESP was projected.

EPA objected to the permit not requiring the inclusion of acid gas control with the initial construction. On June 3, 1987, EPA-Region IV issued an Administrative Order requiring that NRG not commence any on-site construction activity until it received a PSD permit that incorporates acid gas control and more stringent emission limitations for sulfur dioxide and particulate matter in accordance with the EPA determination of best available control technology (BACT).

EPA, upon determining the BACT (see attachment), informed NRG that an application should be filed with FDER to amend the previously issued permit.

The BACT is more stringent than the previous permit and results in a decrease in emissions of all criteria pollutants except NOx. See Table 1 for emission comparisons.

The increase in NOx emissions by about 20 lbs/hr is based on contemporary MSW combustors operating at higher temperatures and combustion efficiencies.

### III. Air Quality Impact Analysis

The modifications to the Lake County facility, which includes the addition of a dry scrubber and changes to several permitted emission limitations, will result in an increase in permitted NOx emissions. Most of the emission limitations have been reduced as a result of the scrubber, however, more recent data from similar facilities has show that a higher emission rate for NOx is appropriate, despite the addition of the scrubber. The increase in NOx emissions is greater than the PSD significance level, therefore, an air quality analysis for NOx is required.

The original PSD construction permit review (PSD-FL-113) issued by the Department contained an extensive air quality analysis for all of the pollutants significantly emitted from the facility, including NOx. The results of that analysis showed that, for the facility itself, the maximum annual average ground level concentration of NOx (considered all NO<sub>2</sub>) was 0.8 ug/m<sup>3</sup>. This value is less than the significant impact level for NO<sub>2</sub> of 1.0 ug/m<sup>3</sup>. Therefore, no further analysis for this pollutant was necessary.

The increase in NOx emissions associated with this modification is 173 tons/year. In order to evaluate the impact of this increase the Department remodeled the total emissions, as currently requested, for the critical year of meteorology as determined from the previous permit review. The stack parameters and emission characteristics associated with this modification along with the model output are contained in Appendix A. The ISCST (version 6) atmospheric dispersion model was used with 1976 Orlando meteorological data.

The results of the analysis show that the maximum annual average ground-level concentration of NOx is now predicted to be 1.2 ug/m<sup>3</sup>. Although this concentration is now fractionally above the significance level, the Department is reasonably assured that the ambient air quality standard for NO<sub>2</sub> (100 ug/m<sup>3</sup>, annual average) is protected. The Lake County area is a rural area and is an attainment area for both NO<sub>2</sub> and ozone.

The Chassahowitzka National Wilderness (Class I) Area is located approximately 70 kilometers from the Lake County

TABLE I  
COMPARISON OF PRESENT AND PROPOSED EMISSION LIMITS PER UNIT

Pollutant	Proposed Permit		Existing Permit		Change	
	Limit	Potential Emission		Potential		
	ppm or gr/dscf (a)	@ 100% lb/hr (1) (b)	@ 115% lb/hr (c)	@100% lb/hr (d)	(b-d) lb/hr (e)	(c-d) lb/hr (f)
Particulate	0.015 gr/dscf	3.3	3.8	4.7 (0.020 gr/dscf)	-1.4	-0.9
SO <sub>2</sub> (2)	60 ppmdv	15.5	17.8	29.2	-13.7	-11.4
	120 ppmdv	31.0	35.6	29.2 (50.4)	1.8 (-27.4)	6.4 (-22.8)
NO <sub>x</sub>	385 ppmdv	71.8	82.5	52.1	19.7	30.4
CO	200 ppmdv	22.7	26.1	46.9 (400 ppmdv)	-24.2	-20.8
VOC	70 ppmdv	3.4	3.9	4.2	-0.8	-0.3
Lead	3.1 x 10 <sup>-4</sup> gr/dscf	0.069	0.079	0.1	-0.03	-0.02
Fluoride	1.5 x 10 <sup>-3</sup> gr/dscf	0.33	0.38	0.63	-0.30	-0.25
Beryllium	2.0 x 10 <sup>-7</sup> gr/dscf	4.5 x 10 <sup>-5</sup>	5.1 x 10 <sup>-5</sup>	1.04 x 10 <sup>-5</sup>	3.5 x 10 <sup>-5</sup>	4.1 x 10 <sup>-5</sup>
Mercury(3)	3.4 x 10 <sup>-4</sup> gr/dscf	0.076	0.087	0.147	-0.21	-0.20
H <sub>2</sub> SO <sub>4</sub> (4)		<0.42	<0.42	0.42	<0	<0

1. Conversion from concentration to mass emission rate assumes  $F_c = 1,800 \text{ scf CO}_2/10^6 \text{ BTU}$  for MSW fuel.
2. Proposed SO<sub>2</sub> limit: 60 ppm maximum expected emission.  
120 ppm maximum allowed after 70% control without permit revision.  
Existing permit: 29.2 lb/hr 30-day rolling average 50.4 lb/hr short term maximum.
3. Present mercury limit: 3,200 grams/day
4. No H<sub>2</sub>SO<sub>4</sub> limit is proposed.

facility. No additional analysis was performed to address the increased emissions of NOx on this area. This relatively small increase in conjunction with decreases for most of the other pollutants is judged by the Department to not warrant additional analysis. No impact on the Class I area is expected.

#### IV. Conclusion

Based on the information provided by NRG, the Department has reasonable assurance that the proposed project, as described in the application, and subject to the conditions proposed herein, will not cause or contribute to a violation of an ambient air quality standard or PSD increment, or any other provisions of Chapter 17-2 of the Florida Administrative Code.

APPENDIX A



\* 365-DAY AVERAGE CONCENTRATION (MICROGRAMS/CUBIC METER) \*

\* FROM ALL SOURCES \*  
 \* FOR THE RECEPTOR GRID \*

\* MAXIMUM VALUE EQUALS 1.16353 AND OCCURRED AT ( 150.0, 150.0 ) \*

DIRECTION / RANGE (METERS)  
 (DEGREES) / 500.0 1000.0 1500.0 2000.0 2500.0

360.0 /	.77350	.82653	.85460	.79661	.72512
330.0 /	.47133	.57917	.54535	.43704	.41355
340.0 /	.48133	.62751	.63053	.57203	.51022
330.0 /	.41752	.54070	.53435	.45754	.41034
320.0 /	.47334	.50797	.53153	.53316	.47334
310.0 /	.50333	.52191	.50422	.54395	.40216
300.0 /	.61410	.55705	.53504	.53269	.57751
290.0 /	.51543	.51279	.55525	.52622	.41745
280.0 /	.45553	.55273	.53192	.45855	.40027
270.0 /	.57529	.55277	.57343	.52543	.57453
260.0 /	.45422	.54403	.52676	.48044	.43373
250.0 /	.45330	.57075	.55648	.51666	.45467
240.0 /	.55041	.65229	.56174	.52625	.55957
230.0 /	.54317	.72375	.71465	.55740	.61203
220.0 /	.53101	.52754	.50321	.55255	.49327
210.0 /	.62447	.53831	.50515	.55138	.49727
200.0 /	.53534	.51690	.72812	.72119	.64502
190.0 /	.52119	.20350	.73167	.71023	.53351
180.0 /	1.13355	1.13799	1.16353	1.10415	1.01707
170.0 /	.54372	.57535	.53253	.54045	.53505
160.0 /	.52312	.57255	.53205	.55155	.50727
150.0 /	.42245	.48729	.47719	.43255	.33355
140.0 /	.50220	.57565	.55372	.48934	.48440
130.0 /	.51099	.50017	.55070	.51553	.47075
120.0 /	.47532	.54273	.53095	.42053	.41760
110.0 /	.40433	.43550	.43341	.35504	.33547
100.0 /	.42251	.45004	.42573	.35615	.35463
90.0 /	.53031	.53165	.57031	.51377	.42260
80.0 /	.34544	.40515	.35531	.34135	.23575
70.0 /	.22524	.42355	.40022	.35925	.23501
60.0 /	.44524	.53555	.51225	.45535	.40215
50.0 /	.48541	.56548	.54019	.47921	.43022
40.0 /	.28112	.47709	.44513	.25220	.24333
30.0 /	.23324	.47445	.42727	.27555	.25101
20.0 /	.48542	.57520	.53951	.47245	.41051
10.0 /	.51122	.54548	.55025	.51720	.44521

WISH  
 D-43  
 50315



STATE OF FLORIDA  
DEPARTMENT OF ENVIRONMENTAL REGULATION

TWIN TOWERS OFFICE BUILDING  
2600 BLAIR STONE ROAD  
TALLAHASSEE, FLORIDA 32399-2400



BOB MARTINEZ  
GOVERNOR  
DALE TWACHTMANN  
SECRETARY

**PERMITTEE:**  
NRG/Recovery Group  
1616 Athens Street  
Lakeland, Florida 33803

Permit Number: AC 35-115379 (Amended)  
Expiration Date: May 31, 1991  
County: Lake  
Latitude/Longitude: 28° 44' 22"N  
81° 53' 23"W  
Project: Lake County Waste to Energy  
Facility Units 1 and 2

This permit is issued under the provisions of Chapter 403, Florida Statutes, and Florida Administrative Code Rule(s) 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 two (2) 250 ton per day combustors which will be fueled by municipal solid waste and wood chips.

Construction shall be in accordance with the attached permit application and additional information except as otherwise noted in the Specific Conditions.

This revised permit shall replace previous permit(s) issued for the construction of this facility.

**Attachments are as follows:**

1. Application to Construct an Air Pollution Source, DER Form 17-1.202(1), as modified, dated October 21, 1987.
2. EPA's letter dated October 28, 1987.

PERMITTEE:  
NRG/Recovery Group

Permit Number: AC 35-115379  
Expiration Date: May 31, 1991

**GENERAL CONDITIONS:**

1. The terms, conditions, requirements, limitations, and restrictions set forth herein are "Permit Conditions" and as such are binding upon the permittee and enforceable pursuant to the authority of Sections 403.161, 403.727, or 403.859 through 403.861, Florida Statutes. The permittee is hereby placed on notice that the Department will review this permit periodically and may initiate enforcement action for any violation of the "Permit Conditions" by the permittee, its agents, employees, servants or representatives.

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. Nor 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 does not constitute 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, plant or aquatic life or property and penalties therefore caused by the construction or operation of this permitted source, 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.

PERMITTEE:  
NRG/Recovery Group

Permit Number: AC 35-115379  
Expiration Date: May 31, 1991

**GENERAL CONDITIONS:**

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

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

- a. Having access to and copying any records that must be kept under the conditions of the permit;
- b. Inspecting the facility, equipment, practices, or operations regulated or required under this permit; and
- c. Sampling or monitoring 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 notify and provide the department with the following information:

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

PERMITTEE:  
NRG/Recovery Group

Permit Number: AC 35-115379  
Expiration Date: May 31, 1991

**GENERAL CONDITIONS:**

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 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 arising under the Florida Statutes or Department rules, except where such use is proscribed by Sections 403.73 and 403.111, Florida Statutes.

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 17-4.12 and 17-30.30, 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 is required to be kept at the work site of the permitted activity during the entire period of construction or operation.

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.

14. The permittee shall comply with the following monitoring and record keeping requirements:

- a. Upon request, the permittee shall furnish all records and plans required under Department rules. The retention period for all records will be extended automatically, unless otherwise stipulated by the department, during the course of any unresolved enforcement action.

PERMITTEE:  
NRG/Recovery Group

Permit Number: AC 35-115379  
Expiration Date: May 31, 1991

**GENERAL CONDITIONS:**

- b. The permittee shall retain 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), copies of all reports required by this permit, and records of all data used to complete the application for this permit. The time period of retention shall be 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:
- the date, exact place, and time of sampling or measurements;
  - the person responsible for performing the sampling or measurements;
  - the date(s) 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 submitted or corrected promptly.

**SPECIFIC CONDITIONS:**

1. Municipal Waste Combustor

- a. Each of the two municipal waste combustors (MWC) shall have a design rated capacity of 250 tons Municipal Solid Waste (MSW) per day, 104 million Btu input per hour and 60,200 pounds steam output per hour with MSW having a heating value of 5,000 Btu per pound.
- b. The maximum individual MWC throughput shall not exceed 288 tons per day, 120 million Btu per hour and 69,000 pounds steam per hour, (3-hour average).

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- c. The design furnace mean temperature at the fully mixed zone of the combustor shall not be less than 1,800°F.
  - d. The normal operating range of the MWC shall be 80% to 115% of design rated capacity.
  - e. The MWC shall be fueled with municipal solid waste or wood chips. Other wastes shall not be burned without specific prior written approval of Florida DER.
  - f. Auxiliary fuel burners shall be fueled only with distillate fuel oil or gas (e.g., natural or propane). The annual capacity factor for fuel oil or gas shall be less than 10%, as determined by 40 CFR 60.43b(d). If the annual capacity factor for fuel oil or gas is greater than 10%, the facility shall be subject to 40 CFR 60.44b, standards for nitrogen oxides.
  - g. Auxiliary fuel burner(s) shall be used at start up during the introduction of MSW fuel until design furnace gas temperature is achieved.
  - h. The facility may operate continuously (8760 hrs/yr).
2. Air Pollution Control Equipment Design
- a. Each MWC shall be equipped with a particulate emission control device.
  - b. Each MWC shall be equipped with an acid gas control device designed to remove at least 90% of acid gases and 70% sulfur dioxide emissions.
  - c. The acid gas emission control system shall be designed to be capable of cooling flue gases to an average temperature not exceeding 300°F (3-hour rolling average).
3. Flue gas emissions from each unit shall not exceed the following:
- a. Particulate: 0.0150 grains/dscf corrected to 12% CO<sub>2</sub>
  - b. Sulfur Dioxide: 60 ppm<sub>dv</sub> corrected to 12% CO<sub>2</sub>, 6-hour rolling average;

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70% reduction of uncontrolled SO<sub>2</sub> emissions, 6-hour rolling average. Not to exceed 120 ppmdv corrected to 12% CO<sub>2</sub>, 6-hr rolling average.

- c. Nitrogen Oxides: 385 ppmdv corrected to 12% CO<sub>2</sub>.
- d. Carbon Monoxide: 200 ppmdv corrected to 12% CO<sub>2</sub>, 4-hr rolling average.
- e. Volatile Organic Compounds: 70 ppmdv as carbon corrected to 12% CO<sub>2</sub>.
- f. Lead:  $3.1 \times 10^{-4}$  gr/dscf corrected to 12% CO<sub>2</sub>.
- g. Fluoride:  $1.5 \times 10^{-3}$  gr/dscf corrected to 12% CO<sub>2</sub>.
- h. Beryllium:  $2.0 \times 10^{-7}$  gr/dscf corrected to 12% CO<sub>2</sub>.
- i. Mercury:  $3.4 \times 10^{-4}$  gr/dscf corrected to 12% CO<sub>2</sub>.
- j. Visible Emissions: Opacity of MWC emissions shall not exceed 15% opacity (6-min. average), except for one 6-min. period per hour of not more than 20% opacity. Excess emissions resulting from startup, shut down, or malfunction shall be permitted provided that best operational practices to minimize emissions are adhered to, and the duration of excess emissions are minimized.

For each pollutant for which a continuous emissions monitoring system is required in Condition No. 5, the emission averaging time specified above shall be used to establish operating limits and reportable excess emissions.

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Compliance with the permit emission limits shall be determined by EPA reference method tests included in 40 CFR Parts 60 and 61 and listed in Condition No. 4 of this permit or by equivalent methods approved by Florida DER.

For the purpose of establishing specific increment consumption for TSP and SO<sub>2</sub> at the facility, an hourly emission rate shall be established for each pollutant at the time of performance testing using flue gas flow rates (corrected to 12% CO<sub>2</sub> and prorated to 115% rated furnace capacities) and the applicable concentration limits established above for TSP and SO<sub>2</sub>. Projected emissions are listed below:

Pollutant	Limit ppm or gr/dscf (a)	Projected Emissions	
		@ 100% lb/hr(1) (b)	@ 115% lb/hr (c)
Particulate	0.015 gr/dscf	3.3	3.8
SO <sub>2</sub> (2)	60 ppm dv 120 ppm dv	15.5 31.0	17.8 35.6
NOx	385 ppm dv	71.8	82.5
CO	200 ppm dv	22.7	26.1
VOC	70 ppm dv	3.4	3.9
Lead	3.1 x 10 <sup>-4</sup> gr/dscf	0.069	0.079
Fluoride	1.5 x 10 <sup>-3</sup> gr/dscf	0.33	0.38
Beryllium	2.0 x 10 <sup>-7</sup> gr/dscf	4.5 x 10 <sup>-5</sup>	5.1 x 10 <sup>-5</sup>
Mercury	3.4 x 10 <sup>-4</sup> gr/dscf	0.076	0.087
H <sub>2</sub> SO <sub>4</sub>		<0.42	<0.42

1. Conversion from concentration to mass emission rate assumes F<sub>c</sub> = 1,800 scf CO<sub>2</sub>/10<sup>6</sup> Btu for MSW fuel.
2. Proposed SO<sub>2</sub> limit: 60 ppm maximum expected emission.  
120 ppm maximum allowed after 70% control without permit revision.  
Existing permit: 29.2 lb/hr 30-day rolling average 58.4 lb/hr short term maximum.



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The units are subject to 40 CFR Part 60, Subpart E, and Subpart Db, New Source Performance Standards (NSPS), except that where requirements within the permit are more restrictive, the requirements of the permit shall apply.

**4. Compliance Tests**

- a. Initial compliance tests for particulate matter, SO<sub>2</sub>, nitrogen oxides, CO, VOC, lead, fluorides, mercury and beryllium shall be conducted in accordance with 40 CFR 60.8 (a), (b), (d), (e), and (f).
- b. Annual compliance test(s) for particulate matter and nitrogen oxides shall be performed. Test(s) may be performed in the common stack.
- c. Compliance with the opacity standard shall be determined in accordance with 40 CFR 60.11(b) and (e).
- d. Compliance with the requirement for 70% control of sulfur dioxide emissions will be determined by using the test methods in Condition 4.f. below or a continuous emission monitoring system for SO<sub>2</sub> emissions before and after the air pollution control equipment which meets the requirements of Performance Specification 2 of 40 CFR 60, Appendix B.
- e. The compliance tests shall be conducted at the maximum capacity and at the maximum firing rate of each permitted fuel.
- f. The following test methods and procedures of 40 CFR Parts 60 and 61 or equivalent methods having prior approval of Florida DER shall be used for compliance testing:
  - (1) Method 1 for selection of sample site and sample traverses.
  - (2) Method 2 for determining stack gas flow rate.
  - (3) Method 3 or 3A for gas analysis for calculation of percent O<sub>2</sub> and CO<sub>2</sub>.
  - (4) Method 4 for determining stack gas moisture content to convert the flow rate from actual standard cubic feet to dry standard cubic feet.
  - (5) Method 5 or Method 17 for concentration of particulate matter.

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- (6) Method 9 for visible determination of the opacity of emissions as required in this permit in accordance with 40 CFR 60.11.
- (7) Method 6, 6C, or 8 for concentration of SO<sub>2</sub>.
- (8) Method 7, 7A, 7B, 7C, 7D, or 7E for concentration of nitrogen oxides.
- (9) Method 10 for determination of CO concentration.
- (10) Method 12 for determination of lead concentration.
- (11) Method 13B for determination of fluoride concentrations.
- (12) Method 25 or 25A for determination of VOC concentration.
- (13) Method 101A for determination of mercury emission rate.
- (14) Method 104 for determination of beryllium emission rate.

**5. Continuous Emission Monitoring**

Continuous emission monitors for opacity, oxygen, carbon monoxide, carbon dioxide, and sulfur dioxide shall be installed, calibrated, maintained and operated for each unit.

- a. Each continuous emission monitoring system (CEMS) shall meet performance specifications of 40 CFR 60, Appendix B. The SO<sub>2</sub> CEMS sample point shall be located downstream of control devices for each unit.
- b. CEMS data shall be recorded during periods of startup, shutdown and malfunction but shall be excluded from emission averaging calculations for CO, SO<sub>2</sub>, and opacity.

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- c. A malfunction means any sudden and unavoidable failure of air pollution control equipment or process equipment to operate in a normal or usual manner. Failures that are caused entirely or in part by poor maintenance, careless operation or any other preventable upset condition or preventable equipment breakdown shall not be considered malfunctions.
- d. The procedures under 40 CFR 60.13 shall be followed for installation, evaluation and operation of all CEMS.
- e. Opacity monitoring system data shall be reduced to 6-minute averages, based on 36 or more data points, and gaseous CEMS data shall be reduced to 1-hour averages, based on 4 or more data points, in accordance with 40 CFR 60.13(h).
- f. Average CO and SO<sub>2</sub> emission concentrations, corrected for CO<sub>2</sub>, shall be computed in accordance with the appropriate averaging time periods included in Condition No. 3.
- g. For purposes of reports required under this permit, excess emissions are defined as any calculated average emission concentration, as determined pursuant to Condition No. 5 herein, which exceeds the applicable emission limit in Condition No. 3.

**6. Operations Monitoring**

- a. Devices shall be installed to continuously monitor and record steam production, furnace exit gas temperature (FEGT) and flue gas temperature at the exit of the acid gas control equipment. An FEGT to combustion zone correlation shall be established to relate furnace temperature at the temperature monitor location to furnace temperature in the overfire air fully mixed zone.
- b. The furnace heat load shall be maintained between 80% and 115% of the design rated capacity during normal operations. The lower limit maybe extended provided compliance with the carbon monoxide emissions limit and the FEGT within this permit at the extended turndown rate are achieved.

**7. Reporting**

- a. Fifteen (15) days prior notification of compliance test shall be given to the Florida DER district office.

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- b. The results of compliance test shall be submitted to the Florida DER District office within 45 days after completion of the test.
- c. The owner or operator shall submit excess emission reports for any calendar quarter during which there are excess emissions from the facility. If there are no excess emissions during the calendar quarter, the owner or operator shall submit a report semiannually stating that no excess emissions occurred during the semiannual reporting period. The report shall include the following:
  - (1) The magnitude of excess emissions computed in accordance with 40 CFR 60.13(h), any conversion factors used, and the date and time of commencement and completion of each period of excess emissions (60.7(c)(1)).
  - (2) Specific identification of each period of excess emissions that occurs during startups, shutdowns, and malfunctions of the furnace boiler system. The nature and cause of any malfunction (if known) and the corrective action taken or preventive measure adopted (60.7(c)(2)).
  - (3) The date and time identifying each period during which the continuous monitoring system was inoperative except for zero and span checks, and the nature of the system repairs or adjustments (60.7(c)(3)).
  - (4) When no excess emissions have occurred or the continuous monitoring system has not been inoperative, repaired, or adjusted, such information shall be stated in the report (60.7(c)(4)).
  - (5) The owner or operator shall maintain a file of all measurements, including continuous monitoring systems performance evaluations; monitoring systems or monitoring device calibration; checks; adjustments and maintenance performed on these systems or devices; and all other information required by this permit recorded in a permanent form suitable for inspection (60.7(d)).

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8. The construction shall reasonably conform to the plans and schedule submitted in the application. If the permittee is unable to complete construction on schedule, the Department must be notified in writing 60 days prior to the expiration of the construction permit and submit a new schedule and request for an extension of the construction permit, (Rule 17-2, FAC).

To obtain a permit to operate, the permittee must demonstrate compliance with the conditions of the construction permit and submit a complete application for an operating permit, including the application fee, along with compliance test results and Certificate of Completion, to the Department's District office 90 days prior to the expiration date of the construction permit. The permittee may continue to operate in compliance with all terms of the construction permit until its expiration date. Operation beyond the construction permit expiration date requires a valid permit to operate. (Rules 17-2 and 17-4, FAC).

If the construction permit expires prior to the permittee requesting an extension or obtaining a permit to operate, then all activities at the project must cease and the permittee must apply for a new permit to construct which can take up to 90 days to process a complete application. (Rule 17-4, FAC)

9. Any change in the method of operation, fuels, equipment or operating hours shall be submitted for approval to DER's District office.

Issued this \_\_\_\_\_ day of \_\_\_\_\_, 19\_\_

**STATE OF FLORIDA DEPARTMENT OF  
ENVIRONMENTAL REGULATION**

\_\_\_\_\_  
Dale Twachtman, Secretary