

Florida Department of Environmental Regulation

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

Bob Martinez, Governor

Dale Twachtmann, Secretary

John Shearer, Assistant Secretary

August 11, 1988

CERTIFIED MAIL-RETURN RECEIPT REQUESTED

Mr. Garrett Sloan
Director
Miami-Dade Water and Sewer Authority Dept.
3575 S. LeJeune Road
P. O. Box 330316
Miami, Florida 33233-0316

Dear Mr. Sloan:

Attached is one copy of the Technical Evaluation and Preliminary Determination and proposed permit for the Miami-Dade Water and Sewer Authority Department to construct three 900 kW methane gas fueled internal combustion engines, each with an associated electrical generator, at the South District Wastewater Treatment Plant located at 8950 SW 232nd Street, Miami, Dade 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: I. Goldman, SE FL Dist.
P. Wong, DERM
R. Cuevas, P.E., MDWSAD
B. Pittman, Esq., DER

BEFORE THE STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL REGULATION

In the Matter of
Application for Permit by:

Miami-Dade Water and Sewer
Authority Dept.
P. O. Box 330316
Miami, Florida 33233-0316

DER File No. AC 13-146961

INTENT TO ISSUE

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

The applicant, Miami-Dade Water and Sewer Authority Department, applied on February 22, 1988, to the Department of Environmental Regulation for a permit to construct three 900 kW methane gas fueled internal combustion engines, each with an associated electrical generator, at the South District Wastewater Treatment Plant, which is located at 8950 SW 232nd Street, Miami, Dade County, Florida.

The Department has permitting jurisdiction under Chapter 403, Florida Statutes, and Florida Administrative Code 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.

Pursuant to Section 403.815, F.S. and DER Rule 17-103.150, FAC, you (the applicant) are required to publish at your own expense the enclosed Notice of Proposed Agency Action on permit applications. The notice must be published one time only in 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, Florida Statutes. Petitions must comply with the requirement of Florida Administrative Code Rules 17-103.155 and 28-5.201 (copy 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, Florida Statutes, 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:

I. Goldman, SE FL Dist.
P. Wong, DERM
R. Cuevas, P.E., MDWSAD
B. Pittman, Esq., DER

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.

State of Florida
Department of Environmental Regulation
Notice of Intent

The Department of Environmental Regulation hereby gives notice of its intent to issue a permit to Miami-Dade Water and Sewer Authority Department to construct three 900 kW methane gas fueled internal combustion engines, each with an associated electrical generator, at the South District Wastewater Treatment Plant located at 8950 SW 232nd Street, Miami, Dade County, Florida.

The Department is issuing this Intent to Issue for the reasons stated in the 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.

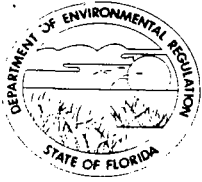
The application is available for public inspection during normal business hours, 8:00 a.m. to 5:00 p.m., Monday through Friday, except legal holidays, at:

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

Dept. of Environmental Regulation
Southeast District
1900 S. Congress Ave., Suite A
West Palm Beach, Florida 33406

Dade County Department of Environmental
Resources Management
Jose Marti Building
801 SW 3rd Avenue, 2nd Floor
Miami, Florida 33130

Any person may send written comments on the proposed action to Mr. Bill Thomas at the Department's Tallahassee address. All comments mailed within 14 days of the publication of this notice will be considered in the Department's final determination.



State of Florida
DEPARTMENT OF ENVIRONMENTAL REGULATION

For Routing To Other Than The Addressee	
To: _____	Location: _____
To: _____	Location: _____
To: _____	Location: _____
From: _____	Date: _____

Interoffice Memorandum

TO: Dale Twachtmann
FROM: Steve Smallwood
SUBJ: Approval of Construction Permit No. AC 13-146961
Miami-Dade Water and Sewer Authority Department
South District Wastewater Treatment Plant
DATE: September 21, 1988

Attached for your approval and signature is a permit prepared by Central Air Permitting for the above mentioned company to construct three 900 kW methane gas fueled internal combustion engines, each with an associated electrical generator.

There were no comments received during the public notice period.

Day 90, after which this permit will be issued by default, is October 20, 1988.

I recommend your approval and signature.

SS/BM/s

attachments

Technical Evaluation
and
Preliminary Determination

Miami-Dade Water and Sewer Authority Department
South District Wastewater Treatment Plant
Dade County
Miami, Florida

Construction Permit Number:
AC 13-146961

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

August 11, 1988

I. Application

A. Applicant

South District Wastewater Treatment Plant
Miami-Dade Water and Sewer Authority Department
3575 South LeJeune Road
Miami, Florida 33133

B. Project and Location

The applicant proposes to construct/install three new 900 kW methane gas fueled internal combustion engines (prime movers) and associated electrical generators.

The facility is located at 8950 Southwest 232nd Street, Miami, Dade County, Florida. The UTM coordinates are Zone 17, 565.2 km East and 2826.9 km North.

C. Process and Controls

Methane gas is generated from the digesting of sewage sludge. The collected gas will be scrubbed using chlorinated effluent water to remove hydrogen sulfide (H₂S) gas, which is a contaminant in digester methane gas. Two scrubber control systems will be constructed/installed.

After scrubbing the gas, it will be stored in two new 60-foot diameter storage spheres. Total storage capacity is estimated to be 580,000 scf at a maximum 40 psig.

The gas will then be transferred from the storage spheres to the prime movers for combustion. Of the three proposed new stationary sources, the applicant proposes to operate only two of them at a maximum of 8,400 hours each per year, while the other new source will be placed on a stand-by basis. The total annual hours of operation, all units, will not exceed 16,800.

II. Rule Applicability

The proposed project is subject to preconstruction review under the provisions of Chapter 403, Florida Statutes, and Florida Administrative Code (FAC) Rules 17-2 and 17-4. The application was deemed complete June 9, 1988.

The existing facility is a minor facility for all pollutants in accordance with FAC Rule 17-2.100(116).

The facility does not belong to any of the facility categories listed in Table 500-1, Major Facility Categories, and the sum of the potential emissions (see Table 1) of all the pollutants projected to be emitted from the proposed sources are

not equal to or greater than 250 TPY. Therefore, the proposed project's emissions are not subject to new source review requirements pursuant to FAC Rule 17-2.500, Prevention of Significant Deterioration (PSD).

Table 1

Source	Projected Potential Pollutant Emissions							
	NOx		SO ₂		CO		NMHC	
	lbs/hr	TPY	lbs/hr	TPY	lbs/hr	TPY	lbs/hr	TPY
1 Unit	9.7	40.8	1.2	5.0	5.6	23.5	1.4	5.9
2 Units		81.6		10.0		47.0		11.8

Note:

- o Unit: An internal combustion engine with an associated generator (900 KW; 1270 BHP; 14,090 scfh; 720 RPM; and, Coopers Ind. 12 GTL(B)-or equal)
- o SO₂ - sulfur dioxide CO - carbon monoxide
- o Based on 8,400 hours of operation per source with a maximum total hours of operation, all units, of 16,800
- o One of the three proposed new sources is on a stand-by basis
- o NOx potential emissions are based on 250 ppm by volume, corrected to 15 % O₂ on a dry basis
- o SO₂ emissions are based on the projected H₂S input, assuming that 100% of the H₂S is converted to SO₂-SO₃ upon combustion
- o CO emissions estimated from the manufacturer's guarantee: 2.0 gms/BHP-hr
- o NMHC emissions estimated from the manufacturer's guarantee: 0.5 gm/BHP (estimated at 10% of total hydrocarbons)

The existing facility is located in Dade County, which is an area designated nonattainment for the pollutant ozone, pursuant to FAC Rule 17-2.410(1)(d). Volatile organic compounds (VOC), which are defined in FAC Rule 17-2.100(211), are precursors to ozone and are, therefore, reviewed in accordance with FAC Rule 17-2.510, New Source Review for Nonattainment Areas. Since the projected VOC emissions, in this case nonmethane hydrocarbons (NMHC), are less than 100 TPY, the emissions are not subject to review pursuant to FAC Rule 17-2.510.

Therefore, the proposed project's emissions are subject to review pursuant to FAC Rule 17-2.520, Sources Not Subject to PSD or Nonattainment Requirements.

For these proposed new sources, there is not an emission limiting and performance standard contained in FAC Rule 17-2.600, Specific Source Emission Limiting Standards, nor in FAC Rule 17-2.650(1), Reasonably Available Control Technology - Volatile Organic Compounds. Therefore, the proposed modification shall be

permitted in accordance with FAC Rule 17-2.610(2), General Visible Emissions Standard, and FAC Rule 17-2.620(2), General Pollutant Emission Limiting Standards - Objectionable Odors Prohibited.

In accordance with FAC Rule 17-2.610(2), no person shall cause, let, permit, suffer or allow to be discharged into the atmosphere any air pollutants from new, or existing sources, the density of which is equal to or greater than that designated as Number 1 on the Ringelmann Chart, the opacity of which is equal to or greater than 20 percent.

In accordance with FAC Rule 17-2.620(2), no person shall cause, suffer, allow or permit the discharge of air pollutants which cause or contribute to an objectionable odor. Therefore, objectionable odors shall not be allowed off plant property.

The applicant requested a NOx emission limit of 700 ppm by volume, corrected to 15% oxygen on a dry basis, which is the same limiting standard for NOx as presented in a proposed new source performance standard, 40 CFR 60, Subpart FF. However, with the manufacturer's guarantee of 105 ppm by volume, corrected to 15% oxygen on a dry basis, and the fact that the NOx emission standards in Subpart FF are going to be revisited and purported to be reduced dramatically, the Bureau feels that a NOx emission limiting standard of 250 ppm by volume, corrected to 15% oxygen on a dry basis, is achievable, provides a margin of safety for compliance purposes, and gives the Department the reasonable assurance that the source is being operated properly. With this emission limiting standard and by placing a cap on the total annual hours of operations, the proposed project is not subject to new source review pursuant to FAC Rule 17-2.500, PSD.

Compliance tests for visible emissions and NOx shall be required and shall be performed in accordance with FAC Rule 17-2.700, Stationary Point Source Emission Test Procedure. Visible emissions tests shall be performed using EPA Method 7. Frequency of tests, reporting, notification, etc., shall be in accordance with FAC Rule 17-2.700.

III. Summary of Emissions and Air Quality Analysis

A. Emission Limitations

The regulated pollutant emission rates/limits from this facility will be NOx and visible emissions. Table 2 will display the pollutants, their emission limiting standards, and the allowable emission limits for the proposed new sources:

Table 2

Source	Pollutant	Emission Limiting Standard	Allowable Emission Limit	
			lbs/hr	TPY
1 Unit	NOx	250 ppm by vol., corrected to 15% O ₂ on a dry basis	9.7	40.8
All Units	NOx			81.6
All Units	Visible Emissions		Less than 20% opacity	

Note: o Allowable emission limit is based on 8,400 hours per unit, with a maximum total hours of operation, all units, of 16,800.

o One of the three proposed new sources is on a stand-by basis.

The permitted emissions are in compliance with all applicable requirements of FAC Rules 17-2 and 17-4.

B. Air Quality Impacts

From a technical review of the application package and supplementary material, an ambient air quality analysis was not required.

IV. Conclusion

The emission limiting standard for NOx of 250 ppm by volume, corrected to 15% oxygen on a dry basis, has been determined to be reasonable and shall become a condition in the proposed construction permit.

The permitted emissions should not have a significant impact on the ambient air quality standards.

The General and Specific Conditions listed in the proposed construction permit (attached) will assure compliance with all applicable requirements of FAC Rules 17-2 and 17-4.