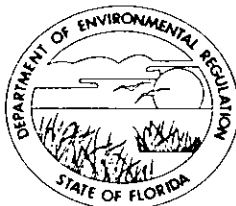


STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL REGULATION

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



BOB MARTINEZ
GOVERNOR
DALE TWACHTMANN
SECRETARY

July 14, 1987

CERTIFIED MAIL - RETURN RECEIPT REQUESTED

Mr. Richard W. Seelinger
Executive Vice President
Ogden Martin Systems of
Hillsborough County, Inc.
40 Lane Road, CN 2615
Fairfield, New Jersey 07007-2615

Dear Mr. Seelinger:

Attached is one copy of the Technical Evaluation, Preliminary Determination, and draft permit to increase the allowable nitrogen oxides, sulfuric acid mist, and particulate emissions from the resource recovery facility in Hillsborough 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/BA/s

attachment

cc: Louis Tortora, Jr., P.E.
Bill Thomas
Wayne Aronson
Miguel Flores
Jerry Campbell
Sandra Freedman, Mayor of Tampa
Pam Iorio, County Commissioner

P 408 531 208

RECEIPT FOR CERTIFIED MAIL

NO INSURANCE COVERAGE PROVIDED—
NOT FOR INTERNATIONAL MAIL

(See Reverse)

Mr. to Richard W. Seelinger
Ogden Martin Sys. of Hil
Street and No.
40 Lane Road, CN 2615
P.O., State and ZIP Code
Fairfield, NJ 07007-2615

Postage	\$
Certified Fee	
Special Delivery Fee	
Restricted Delivery Fee	
Return Receipt Showing to whom and Date Delivered	
Return Receipt Showing to whom, Date, and Address of Delivery	
TOTAL Postage and Fees	\$

Postmark or Date
Mailed: 07/14/87
PSO-FL-101

PS Form 3800, Feb. 1982

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.

1. Show to whom, date and address of delivery.
2. Restricted Delivery.

3. Article Addressed to:
Mr. Richard W. Seelinger
Ogden Martin System of
Hillsborough County Inc.
40 Lane Road, CN 2615
Fairfield, New Jersey 07007-2615

4. Type of Service:
 Registered
 Certified
 Express Mail
 Insured
 COD
 Article Number P 408 531 208

Always obtain signature of addressee or agent and DATE DELIVERED.

5. Signature - Addressee
X

6. Signature - Agent
X *[Signature]*

7. Date of Delivery
7/17/87

8. Addressee's Address (Only if requested and fee paid)

BEFORE THE STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL REGULATION

In the Matter of
Application for Permit by:

Hillsborough County
Hillsborough County Courthouse
419 Pierce Street
Tampa, Florida 33602

DER File No. PSD-FL-121

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.

Ogden Martin Systems on behalf of Hillsborough County, applied on May 1, 1987, to the Department of Environmental Regulation for a permit to increase the allowable nitrogen oxides, sulfuric acid mist and particulate existing refuse to energy facility located in Hillsborough 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.

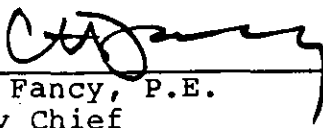
Pursuant to Section 403.815, F.S. and DER Rule 17-103.150, FAC, you (the applicant) are required to publish at your own expense the enclosed Notice of Proposed Agency Action on permit application. The notice must be published one time only in a section of a major local newspaper of general circulation in the county in which the project is located and within thirty (30) days from receipt of this intent. Proof of publication must be

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 (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, 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:

Richard W. Seelinger

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 July 14, 1987.

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.

Margaret H. Jones
Clerk

7/14/87
Date

State of Florida
Department of Environmental Regulation
Notice of Proposed Agency Action
on Permit Application

The Department of Environmental Regulation gives notice of its intent to issue a permit to Hillsborough County to increase the allowable nitrogen oxides, sulfuric acid mist, and particulate emissions from their existing energy recovery (municipal solid waste incineration) facility. The facility is located in Hillsborough County approximately two miles east of Tampa on the county's Faulkenburg Road site. A determination of best available control technology (BACT) was required.

This application was reviewed under Florida Administrative Code Rule 17-2.500, Prevention of Significant Deterioration. Emissions of nitrogen oxides, sulfuric acid mist, and particulates will increase by 739, 289, and 7 tons per year, respectively. The allowable emissions of the other pollutants are not being increased. The Department has completed a study of the potential ambient air impact due to the increase in emissions. Based on this study, the Department has reasonable assurance that the increase in emissions will not cause or contribute to an exceedance of the ambient air quality standards for these pollutants. No PSD increment analysis is required for this modification.

Persons 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 conform to the requirements of Chapters 17-103 and 28-5, Florida Administrative Code, and must be filed (received) in the Office of General Counsel of the Department at 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 request for hearing 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.

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 preliminary statement. Therefore, persons who may not object to the proposed agency action may wish to intervene in the proceeding. A petition for intervention must be filed pursuant to Model Rule 28-5.207 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 32399-2400. 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
Southwest District
7601 Highway 301 North
Tampa, Florida 33610

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

Hillsborough County Environmental
Protection Commission
1410 N. 21st Street
Tampa, Florida 33605

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.

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.

Technical Evaluation
and
Preliminary Determination

Hillsborough County, Florida

Resource Recovery Facility Modification
File No. PSD-FL-121

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

July 14, 1987

I. INTRODUCTION

Pursuant to Section 403.505, Florida Statutes, Hillsborough County applied to the Florida Department of Environmental Regulation (DER) in August 1984 for certification of a steam electric-generating, solid waste energy recovery facility at a site about two miles east of the town of Tampa on the County's Faulkenburg Road site. After a thorough review by DER, including public hearings, the Florida Power Plant Siting Board issued a site certification to the County. At that time, DER believed that such a site certification constituted a legal prevention of significant deterioration (PSD) permit under Chapter 17-2.500, FAC, of the Florida air pollution regulations which had been approved by the U.S. Environmental Protection Agency (EPA) on December 22, 1983. In the summer of 1985, EPA became aware that the Power Plant Siting Act (PPSA) under which the site certification was issued supercedes all other State laws, including the law under which Florida's air pollution regulations are adopted. Consequently, the Florida PSD regulations are superceded by the PPSA, and legally could not be approved by EPA as part of the State Implementation Plan (SIP) since the PPSA does not comply with the EPA's PSD regulations in several respects. Thus, the Hillsborough County Energy Recovery Facility (ERF), which was under construction, did not possess a valid PSD permit. EPA's remedy for this situation was to issue an Order under Section 167 of the Clean Air Act for Hillsborough County to either cease construction or apply for a Federal PSD permit under 40 CFR 52.21, U.S.C. On December 13, 1985, Hillsborough County applied to DER for a PSD permit. (By that time, DER had been given authority by EPA to conduct the technical and administrative steps of the Federal PSD permitting process.) In conducting the PSD review, EPA decided that, due to the unique circumstances of this permit application, the best available control technology (BACT) analysis would be conducted taking into account the factors affecting BACT at the time the County submitted a complete application for a site certification. That date was August 16, 1984.

On May 1, 1987, Ogden Martin Systems in behalf of Hillsborough County applied to DER to increase the allowable nitrogen oxides (NOx) and sulfuric acid mist emissions at the Hillsborough County ERF. This request for an emissions increase was based on recent testing of similar facilities in the United States indicating that the originally requested limits for these pollutants will be exceeded during normal operation. Subsequently, on June 16, 1987, Ogden Martin Systems on behalf of Hillsborough County submitted an application to operate/construct dust suppression equipment that was added to the final design of the ash handling building to ensure that there would be no visible emissions from this plant area.

The proposed project will be an ERF boiler which could use up to 1200 tons per day (TPD) of refuse as fuel. A proposed boiler expansion could increase the total solid waste processing capacity of the plant to 1600 TPD. The steam from the new boiler will be sent to a turbine generator with a capacity of 29 megawatts (MW) (gross). Hillsborough County has contracted with a full service vendor to design, construct, and operate the plant for 20 years. Generated electricity will be transmitted to the Tampa Electric Company (TECO) for distribution over the TECO transmission system. The generating capacity of the expanded plant should be approximately 39 MW. The primary purpose of the facility is to dispose of solid waste. In addition to electricity, recovered resources could be, steam, ferrous metals, and aluminum. Non-processible waste (including non-combustibles and demolition debris) and unusable residue will be buried at a licensed, off-site sanitary landfill. The sale of electricity, and eventually other processed and recovered resources, will help offset the overall cost of owning and operating the facility.

The ERF will be located on approximately 50.4 acres within the County's existing Faulkenburg Road tract. The site is located approximately 0.6 miles north of State Road 60. It is bordered by Faulkenburg Road on the east, by a TECO 230 KV transmission line corridor on the west, and by the Seaboard System Railroad on the south. The plant site is mostly level grassy land with scattered trees in the northwest portion. The site has been recently used as improved pasture for cattle grazing. The topography is fairly level, with elevation ranging from 27 to 45 feet above sea level across the tract. Geology of the site shows an overburden of sand and clay lying over limestone and dolomite which forms the Floridan Aquifer. The overburden forms a subsurface reservoir called the Shallow Aquifer. The proposed facilities will consist of a 29 MW steam electric generating turbine; three 400 tons per day mass-burn solid waste fired boilers; a mechanical draft cooling tower utilizing treated sewage effluent; a 220 foot flue gas stack; and electrostatic precipitators. Provisions are made to allow the addition of another 400 tons per day boiler.

II. Rule Applicability

The proposed site of the Hillsborough County ERF is in an area designated as nonattainment for ozone and particulate matter under 40 CFR 81.310, U.S.C., and attainment for all other criteria pollutants.

New major sources which emit attainment pollutants regulated under the Clean Air Act in amounts greater than certain significance levels are subject to 40 CFR 52.21, U.S.C. The significance levels are specified by the PSD regulations.

The proposed increase, which constitutes a major modification to

a major source, is, therefore, subject to PSD review under 40 CFR 52.21, U.S.C. because the modification will result in a significant net emissions increase of a criteria pollutant. These emission rates, and the PSD significant emission rates, are listed in Table II-1.

Table II-1

	<u>Requested (TPY)</u>	<u>Permitted (TPY)</u>	<u>Increase (TPY)</u>	<u>PSD Significant Rate (TPY)</u>
Nitrogen Oxide Emissions	1,396	657	739	40
Sulfuric Acid Mist Emissions	306	17	289	7
Particulate Emissions	97	90	7	N/A

The proposed source has the potential to emit more than 100 tons per year of one or more regulated pollutants and is, therefore, subject to review under 40 CFR 52.21, U.S.C. PSD review includes, among other requirements, a determination of Best Available Control Technology (BACT) and an air quality impact analysis for each attainment and noncriteria pollutant that would be emitted in a significant amount as listed in Table II-1.

III. Preliminary Determination

As noted in Section I, Table II-1, the proposed modification will result in significant emissions of NOx, and sulfuric acid mist.

The increase in particulate emissions due to the dust suppression equipment added to the ash handling facility result in a total facility emission rate of 97 tons per year. The modification does not result in the facility being major for particulates (annual emissions of particulates exceed 100 tons per year) hence the increase constitutes a minor modification to a minor facility with respect to particulates. The emissions of the other regulated pollutants (volatile organic compounds, sulfur dioxide carbon monoxide, lead, mercury, beryllium, and fluorides) are not being changed by the requested modification. The July 7, 1986, Technical Evaluation and Final Determination for this source (PSD-FL 104) discusses the basis for the standards of the other regulated pollutants.

Initially, NOx and sulfuric acid mist were expected to be emitted at a much lower level than recent testing of similar facilities has indicated. The applicant has informed DER that based on

these recent tests, the originally permitted emission rates for NOx and sulfuric acid mist will be exceeded during normal operation of the facility.

A BACT determination for NOx and sulfuric acid mist, which is included as part of this review, addresses the information and analysis used to revise the NOx and sulfuric acid mist standards for this facility.

After evaluating the information submitted by the applicant and the emission limitations for similar facilities, DER concluded that the applicant's request to increase NOx emissions to the requested level is consistent with BACT for these facilities. In addition, it was concluded that the sulfuric acid mist emission limit should be deleted from the permit conditions.

It has also been determined that the dust suppression equipment (baghouse) on the ash handling system provides a reasonable level of control and hence is consistent with the requirements for a modification of a minor source with respect to particulates.

The proposed emissions increase of NOx and sulfuric acid mist from the ERF are 739 and 289 tons/year respectively. Since these increases exceed the significant levels for PSD applicability they are subject to the requirements of this rule. In general, these requirements include:

- ° An analysis of existing air quality
- ° An Ambient Air Quality Standards (AAQS) analysis.
- ° An analysis of impacts on soils, vegetation, growth-related air quality impacts; and
- ° A "Good Engineering Practice" (GEP) Stack Height determination; and
- ° BACT

Based on these required analyses, DER has reasonable assurance that the proposed units at the Hillsborough County ERF, as described in this report and subject to the conditions of approval proposed herein, will employ BACT, will not cause or contribute to a violation of any PSD increment or ambient air quality standard, and will comply with all applicable air pollution regulations. A discussion of all review components follows.

IV. BACT Determination

The applicant has constructed a solid waste ERF located approximately two miles east of Tampa on the Hillsborough County Faulkenburg Road site. This ERF is capable of burning up to 1200 tons per day (TPD) of refuse as fuel, resulting in an electrical generating capacity of 29 megawatts.

The facility was issued a PSD permit in July 1986 (PSD FL-104) which limited the emission of NOx and sulfuric acid mist to 0.16 gr/dscf and 0.0040 gr/dscf corrected to 12% CO₂, respectively.

On May 1, 1987, the applicant submitted a letter requesting modifications to the permitted NOx and sulfuric acid mist limitations in the PSD permit, and the permitted NOx limitation in the Power Plant Siting Certification (PA 83-19). This request to modify the emission limitations for these pollutants was based on test data which has become available to the municipal solid waste combustion industry subsequent to the issuance of the aforesaid permits. Based on this data, the applicant has stated that the Hillsborough County ERF will be unable to meet the permitted levels for NOx and sulfuric acid mist (H₂SO₄ mist) and has requested an increase in these emissions limitations.

For permitting purposes, the applicant has proposed that the NOx limitation be increased from 0.16 gr/dscf at 12 percent CO₂ to 0.34 gr/dscf at 12% CO₂ for a three (3) hour average. The sulfuric acid mist limitation would be increased from 0.004 gr/dscf at 12 percent CO₂, to 0.072 gr/dscf at 12 percent CO₂ for a three (3) hour average.

Review Group Members

This determination was based upon comments received from the applicant, the Stationary Source Control Section, and EPA Region IV.

BACT Determined by DER:

Pollutant	Emission Limit
Nitrogen Oxides (NOx)	0.34 gr/dscf @ 12% CO ₂
Sulfuric Acid Mist	0.072 gr/dscf @ 12% CO ₂

BACT Determination Rationale

A review of the exhibits and data submitted by the applicant indicates that the emission levels originally proposed by the applicant are relatively low in comparison to similar facilities that have recently been tested.

Initially the applicant proposed an NOx emission limitation equivalent to 0.16 gr/dscf corrected to 12% CO₂. At the time of this proposal, (August 1984) there were no data available to Ogden or other similar corporations with regard to NOx emission levels being experienced by modern refuse burning facilities using state-of-the-art mass-burn technology. As a consequence, data derived from older facilities then in operation were used as the source of the NOx emission level requested in the application. The older facilities were neither designed nor

operated to achieve the high degree of combustion efficiency as that achieved by this facility and, perhaps predictably, testing has demonstrated that the older data are not compatible with emissions from modern facilities. Subsequent to submission of the present application, several resource recovery facilities around the country using improvements in combustion technology have gone into service. Two of these are Ogden facilities in Tulsa, Oklahoma and Marion County, Oregon. Operation of these facilities has shown that actual NOx levels are equivalent to those now being sought.

The applicant also seeks an adjustment of the emission level for sulfuric acid mist to reflect emissions of this substance from modern refuse burning facilities. The emission level for H₂SO₄ mist that was originally requested in the application, and later adopted in the permit, was not based upon operating results of facilities using current technology. At the time the application was submitted, no such data were available. In fact, it has only been very recently that H₂SO₄ mist emissions have been regulated in refuse burning facilities. The basis for the emission level contained in the application was a "theoretical" calculation derived from a formula found in an American Society of Mechanical Engineer's text published in 1974 involving a different type of operating temperatures.

Based upon the experience of resource recovery facilities recently coming into service, the sulfuric acid mist levels originally requested (August 1984) and adopted are also unrealistically low. The emissions of sulfuric acid mist and NOx measured at facilities which are similar to the Hillsborough County ERF are shown below, along with preliminary testing results at the Hillsborough County Facility.

EMISSION TEST DATA AND PERMIT LEVELS FOR NOx AND H₂SO₄

Pollutant	Tulsa		Marion	Wurzberg	Stockholm	Preliminary (5) Hillsborough Test Results
	Test ppm @ 12% CO ₂	Permit ppm @ 12% CO ₂	Test ppm @ 12% CO ₂	Test ppm @ 12% CO ₂	Test ppm @ 12% CO ₂	ppm @ 12% CO ₂
NOx	385(1)	404	357(2)	318(3)	311(4)	327
H ₂ SO ₄	12.4(6)	21.1	DATA NOT AVAILABLE			15.2

References:

- (1) Ogden Projects, Inc. Data, 3-hr rolling average, worse case.
- (2) Ogden Projects, Inc. Data, 3-hr rolling average, worse case.
- (3) Cooper Engineer's Report "Air Emission Testing at the Wurzberg, West Germany Waste-to-Energy Facility", June 1986, 3-hr average.
- (4) Ogden Projects, Inc. Report #124, averaging period unknown.
- (5) Preliminary data obtained during testing at the Hillsborough Facility, 3-hr average.
- (6) Ogden Projects, Inc. Report Number 101.

The requested emission limitations of 0.34 gr/dscf @ 12% CO₂ and 0.072 gr/dscf @ 12% CO₂ for NO_x and sulfuric acid mist are equivalent to 404 ppm @ 12% CO₂ and 39 ppm @ 12% CO₂, respectively.

Comparing these requested levels to the data for the other facilities it suggests that these requested limits are indeed reasonable.

In addition to comparing the requested emission limitations to the facilities incorporating similar designs as illustrated in the table above, the requested emission limits have been compared to the permitted emission levels of other mass burn type ERF's permitted in the State of Florida. In making the comparisons, the requested limitations have been converted to the equivalent emission rate in units of pounds of pollutant emitted per ton of refuse are combusted. These values for the pollutant NO_x are given below.

<u>Facility</u>	<u>Permitted NO_x Emission (lb/ton)</u>
Pinellas County	4.3
City of Tampa	7.2
Broward South	5.0
Broward North	5.0
Lake County	5.0
Hillsborough County	6.4*

* requested emission limitation

In accordance with these permitted NO_x emission limitations for other ERF's in the State of Florida, once again the applicant's request appears to be reasonable.

With regard to emissions of sulfuric acid mist from these facilities, the test data is very limited. Of the mass burn type resource recovery facilities operating or being constructed in the state, only the Hillsborough County ERF has a set an emissions limit for sulfuric acid mist. In fact, in preparing the PSD permits for both the South and North Broward County ERF's, Region IV of the EPA decided to not set an emission limitation for sulfuric acid mist, even though the quantity of these emissions exceeds the significant rate. With regard to this request to increase sulfuric acid emissions at the Hillsborough County Facility, Region IV, proposed that no emission limit be included in the permit.

This recommendation by Region IV is based on results obtained when using the Referenced Test Method (Method 8) for quantifying sulfuric acid mist emissions. EPA has stated in a letter to DER that due to concentrations of fluoride and ammonia in the flue gases, Method 8 is biased high. As is the case, no acceptable test method exists for measuring sulfuric acid mist emissions from municipal solid waste incinerators which has prompted the deletion of the sulfuric acid mist limitation entirely. In accordance with this determination, no emission limitation for sulfuric acid mist will be included in this permit.

V. Air Quality Analyses

The emission increases proposed at the ERF are subject to review under the PSD regulations. NOx and sulfuric acid mist both exceed the significant emission increase level for PSD applicability. Particulate matter, although increasing, will not be significant. A review has been completed to determine the air quality impact of these emission increases. Based on this review, DER has reasonable assurance that the ERF will not cause or contribute to a violation of any PSD increment or ambient air quality standard.

Modeling Methodology

The review of the proposed emission increases (modification) utilizes the dispersion modeling previously completed by the applicant in their original application for the new facility. DER has accepted this previous modeling since the new facility was just recently permitted and the only pollutant subject to modeling is NOx. The model used in that analysis was the EPA-approved Industrial Source Complex Short-term (ISCST) dispersion model. The details of that modeling can be found in the preliminary determination (PSD-FL-104) for the original new facility.

Only the facility itself was modeled for NOx; other sources of this pollutant in the area of the Hillsborough facility were considered as part of the background concentration. Since the predicted ambient concentration is linearly related to the emission rate, the impact of the emissions increase can easily be determined. The stack parameters and emission rates used in evaluating the ambient impacts are listed in Table V-1.

Analysis of Existing Air Quality

Preconstruction ambient air quality monitoring is required for all pollutants subject to PSD review. In general, one year of quality assured data using an EPA-reference, or the equivalent, monitor must be submitted. Sometimes less than one

Table V-1

Hillsborough County Energy Recovery Facility
Source and Emission Parameters

Stack Height (m)	Exit Temp. (k)	Exit Velocity (ms)	Stack Diameter (m)	NOx (g/s)	H ₂ SO ₄ (g/s)	UTM-E (km)	UTM-N (km)
67.0	494	16.9	3.50	58.9	12.8	368.2	3092.7

Table V-2

Hillsborough County Energy Recovery Facility
Ambient Air Quality Impacts

Pollutant and Averaging Time	Max. Impact Modification	Max. Impact Facility	Existing Background	Max. Total	National AAQS
NOx Annual	1 ug/m ³	2 ug/m ³	39 ug/m ³	41 ug/m ³	100 ug/m ³
H ₂ SO ₄ mist 24-hour	9 ug/m ³	9 ug/m ³	--	--	--

year of data, but no less than four months, may be accepted when DER approval is given.

An exemption to the monitoring requirement can be obtained if the maximum air quality impact, as determined through air quality modeling, is less than a pollutant-specific de minimus concentration. In addition, if current monitoring data already exist and these data are representative of the proposed source area, then at the discretion of DER these data may be used.

The predicted maximum air quality impacts of the proposed emission increase for NOx is given in Table V-2. This value (11 ug/m³) is less than the de minimus level of 14 ug/m³. As such, DER is not requiring preconstruction monitoring for this pollutant. No de minimus impact level is defined for sulfuric acid mist and no preconstruction monitoring is being required. A background concentration of NOx of 39 ug/m³ is based on the most recent year of existing monitoring data at a site 9.9 kilometers from the ERF.

Ambient Air Quality Standards Analysis

Given existing air quality in the area of the proposed Hillsborough County ERF, emissions from the modification are not expected to cause or contribute to a violation of an ambient standard. Table V-2 summarizes the total impact. Sulfuric acid mist is not included because no ambient air quality standard has been promulgated for this pollutant. It is regulated through the PSD review process by the application of BACT.

Additional Impacts Analysis

a. Impacts on Soils and Vegetation

The increased emissions of NOx and sulfuric acid mist are not expected to cause or contribute to harmful impacts on soils and vegetation. Emissions of NOx are predicted to increase ambient concentrations in the surrounding area by only a small fraction of the existing levels. Existing levels of this pollutant are dominated by automobile emissions. Emissions of sulfuric acid mist result in a maximum 24-hour concentration of 9 ug/m³. Much research is currently being done on the effects of acid moisture on soils and vegetation. There is no evidence at this time to expect detrimental effects at this concentration level.

b. Growth-Related Air Quality Impacts

The modification requested will not change employment, population, housing, or commercial/industrial development in the area to the extent that an air quality impact will result.

c. GEP Stack Height Determination

GEP Stack Height means the greater of: (1) 65 meters; or (2) the maximum nearby building height plus 1.5 times the building height or width, whichever is less. For the proposed project the building height is 42.7 meters above ground level and the projected width is 56.4 meters. Thus definition (2) above leads to a GEP Stack Height of 106.8 meters. The proposed stack height is 67 meters. This is less than the GEP Stack Height. The applicant has addressed the possible increased ground-level concentrations (as a result of aerodynamic downwash) by including a downwash mechanism in the modeling.