8-10-87

EXHIBIT A

DRAFT PSD PERMIT MODIFICATION
FOR HILLSBOROUGH COUNTY RESOURCE RECOVERY FACILITY
(PSD-FL-104)

Page 1, Paragraph 3

This modification to Permit No. PSD-FL-104 addresses the increased emissions of nitrogen oxides and sulfuric acid mist from the stack at the resource recovery facility. It also addresses the particulate emissions from the ash residue facility and dust suppression baghouse. Except as expressly provided in the specific conditions contained herein, all of the other provisions of Permit No. PSD-FL-104 remain in effect.

Specific Conditions

1. Specific Condition 1.a.(5) in Permit No. PSD-FL-104 establishes an emission limitation for nitrogen oxides. It is modified to read as follows:

   (5) Nitrogen Oxides: 0.34 gr/dscf-12%, or 6.4 lb/ton, whichever is more restrictive.

2. Specific Conditions 1.a.(9) and 1.b.(2)i concerning sulfuric acid mist emission limitations and compliance test requirements are deleted.

3. Pursuant to Rule 17-2.700(3)d, FAC, a standard of 5% opacity is hereby set for the minor particulate source control equipment/baghouse (i.e., the ash residue building dust suppression system). The compliance test requirements for the ash handling facility will be waived in accordance with Rule 17-2.700(3)d, FAC.

DSD/vc:Hills-RR2
Copied CHF/BT
Barry Andrews } 8/12/87 mr

CARLTON, FIELDS, WARD, EMMANUEL, SMITH, CUTLER & KENT, P.A.
P.O. DRAWER 190
TALLAHASSEE, FLORIDA 32302

CLAIR H. FANCY
DEPUTY CHIEF
BUREAU OF AIR QUALITY MANAGEMENT
DEPARTMENT OF ENVIRONMENTAL REGULATION
TWIN TOWERS OFFICE BUILDING
2600 BLAIR STONE ROAD
TALLAHASSEE, FLORIDA 32399-2400

PM
6-9-87
Atlanta, Ga

File Copy

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION IV

345 COURTLAND STREET
ATLANTA, GEORGIA 30365

JUN - 8 1987

4APT/APB-ljf

DER
JUN 11 1987
BAQM

Mr. Clair H. Fancy, P.E.
Deputy Chief
Bureau of Air Quality Management
Twin Towers Office Building
2600 Blair Stone Road
Tallahassee, Florida 32301

Re: Permit Modification Request for Hillsborough County RRF (PSD-FL-104)

Dear Mr. Fancy:

This is in reference to your May 5, 1987, letter transmitting a copy of Ogden Martin Systems of Hillsborough, Incorporated's May 1, 1987, request for a modification to the above-referenced permit. Their request is to raise the emission limits for nitrogen oxides and sulfuric acid mist based on recent stack test results. Your May 5, 1987, letter solicited our comments on Odgen Martin's proposed PSD permit modification.

We concur that the permit be modified in accordance with their request and justification for nitrogen oxides. However, we believe the results of their tests for sulfite concentration as an indication of sulfuric acid mist by EPA reference method 8 is biased high due to concentrations of fluoride and ammonia in the flue gases. As no acceptable test method exists for measuring sulfuric acid mist emissions from municipal solid waste incinerators, and these emissions are estimated based on sulfur dioxide concentrations, we propose that no emissions limits for sulfuric acid mist be included in the revised permit. In this case, we do not feel that such an emissions limit is appropriate since compliance with such a limit could not be determined.

If you have comments or questions regarding this letter, please contact Mike Brandon of my staff at (404) 347-2864.

Sincerely,

Bruce P. Miller

Bruce P. Miller, Chief
Air Programs Branch
Air, Pesticides, and Toxics
  Management Division

copied:
Barry
Tom 6-11-87
Bradcon

UNITED STATES
ENVIRONMENTAL PROTECTION AGENCY
REGION IV
345 COURTLAND STREET
ATLANTA, GEORGIA 30365

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AIR-4

Mr. Clair H. Fancy, P.E.
Deputy Chief
Bureau of Air Quality Management
Twin Towers Office Bldg.
2600 Blair Stone Rd.
Tallahassee, FL 32301

6-11-87

Clair

F.Y.I. Return for filing.

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File 95?

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

May 5, 1987

Mr. Wayne Aronson
Chief
Program Support Section
U.S. EPA, Region IV
345 Courtland Street, N.E.
Atlanta, Georgia 30365

Dear Mr. Aronson:

RE: PSD Permit Modification Request
Hillsborough County RRF: PSD-FL-104

Enclosed for your review are comments from Mr. Richard W. Seelinger on behalf of the applicant of the above referenced project. Please forward any comments to me at the above address or call Barry Andrews or Pradeep Raval at (904)488-1344.

Sincerely,

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

/bm

enclosure

OGDEN PROJECTS, INC.

Telecopier No. 201-882-8207
201-882-8239

AN OGDEN COMPA

TO: Hamilton S. Oven
DER
Tallahassee Fl

1-904-487-4938

TELECOPIER NO: ~~1-904-488-480~~

FROM: J. R. Treshler

DATE: 5-1-87

TIME: 4 PM

NUMBER OF PAGES TO FOLLOW: 14

PROJECT NAME: Hillsborough

PROJECT NUMBER: C-1004

Air Quality Impact of Requested Emissions Levels

	NO_x	
	Existing Permit Levels	Requested Permit Levels
gr/dscf @ 12% CO_2	0.16	0.34
Annual Impact ($\mu g/M^3$)*	1.0	2.1
% of FAAQS	1.0	2.1
Monitored Background	35	35
Total ($\mu g/M^3$)	36	37
% of FAAQS	36	37

	H_2SO_4	
	Existing Permit Levels	Requested Permit Levels
gr/dscf @ 12% CO_2	0.004	0.072
H_2SO_4 8-hr ($\mu g/M^3$)*	0.95	17.1
Annual ($\mu g/M^3$)*	0.027	0.49
TLV (8 hr)-($\mu g/M^3$)**	1,000	1,000
AAL (Annual)-($\mu g/M^3$)***	3.3	3.3
% of TLV	0.095	1.7
% of AAL	0.82	14.8

* Derived from modelling results contained in the Air Quality Impact Analysis in the PSD Application.

** Threshold Limit Value, American Conference of Governmental Industrial Hygienists.

*** Allowable Ambient Limit, New York State Department of Environmental Conservation.

Figure 8.2 gives an expanded scale of Fig. 8.1 in the low excess air region. While these two curves are necessary to describe the entire region covered, it was found that a limited area could be approximated by the following formulae:

$$\frac{\text{mols } SO_3}{\text{mol } O_2^*} = (\%\ \text{Sulfur})(0.001635)\left[\frac{(\%\ \text{Excess Air})^{0.433}}{\left(\frac{^\circ\text{F Temp}}{1000}\right)^{6.9}}\right]$$

or

$$\frac{\text{lbs } SO_3}{10^6\ \text{Btu}} = (\%\ \text{Sulfur})(0.7)\left[\frac{(\%\ \text{Excess Air})^{0.433}}{\left(\frac{^\circ\text{F Temp}}{1000}\right)^{6.9}}\right]$$

Where the excess air is from 5 to 25 percent and the temperature from 1500 to 2500°F a maximum error of 12 percent will occur.

Example:

For the same case of 2.8 percent sulfur, 25 percent excess air and 2000°F, find the mols of SO_3 per mol of stoichiometric O_2 by the formula given:

$$\frac{\text{mols } SO_3}{\text{mol } O_2^*} = (2.8)(0.001635)\left[\frac{(25)^{0.433}}{\left(\frac{2000^{6.9}}{1000}\right)}\right] = 0.00001545$$

Since a value of 0.00014 was found from the curves, the error is 9.37 percent.

The effect of introducing alkaline metals into the sulfur reaction was not studied in depth. It can be stated that there is a definite tendency to form the sulfate form of sodium when both sulfur and sodium are present at 1800°F. The results presented here are for reactions without alkaline metals present.

Other metals such as vanadium may also act as catalysts in the SO_2 to SO_3 reaction and continue the reaction beyond the combustion zone.

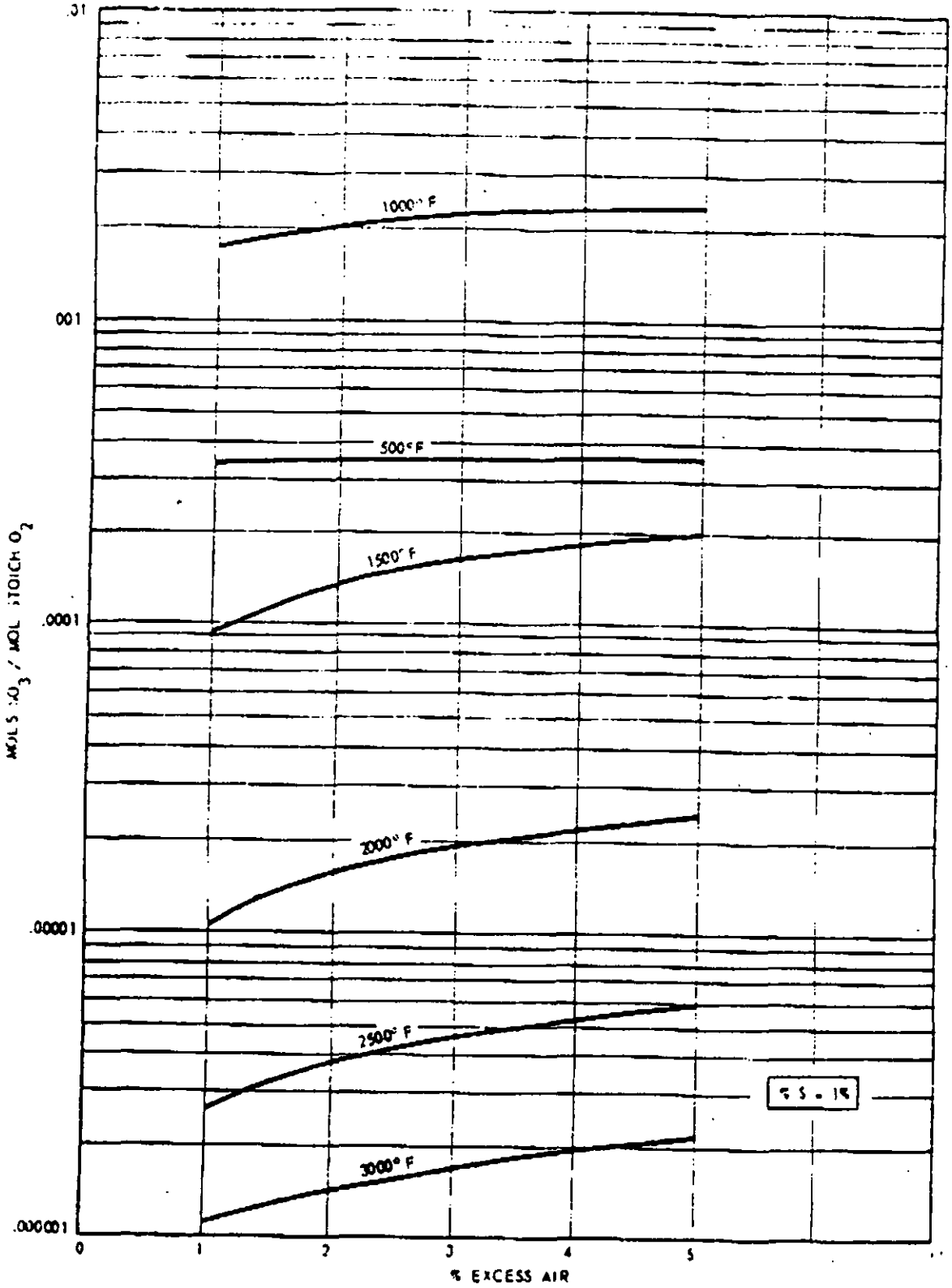

.01
.001
.0001
.00001
.000001
1000° F
500° F
1500° F
2000° F
2500° F
3000° F
% S - 1%
MOLS SO_3 / MOL STOICH O_2
0
1
2
3
4
5
% EXCESS AIR

FIG 8.2

OGDEN PROJECTS, INC.

Telecopier No. 201-882-8707
201-882-8739

AN OGDEN C

TO: Hamilton S. Oven
DER
Tallahassee. Fl

1-904-487-4938

TELECOPIER NO: ~~1-904-488-4898~~ 4938

FROM: J. R. Treshler

DATE: 5-1-87

TIME: 4 PM

NUMBER OF PAGES TO FOLLOW: 14

PROJECT NAME: Hillsborough

PROJECT NUMBER: C-1005

Bilene of 14 sheets

COUNTY OF HILLSBOROUGH

P.O. BOX 1110 TAMPA, FLORIDA 33601

Department of Solid Waste
(813) 272-6674

OFFICE OF THE COUNTY ADMINISTRATOR

July 29, 1986

Mr. J. Thomas Sweeney
Ogden Martin System
of Hillsborough, Inc.
140 Ridgewood Avenuye
Paramus, NJ 07652

Dear Tom:

Attached is the PSD permit issued by the U. S. Environmental Protection Agency on July 2, 1986. The permit becomes effective thirty (30) days after receipt, which was July 14, 1986.

Sincerely,

Thomas G. Smith
General Manager
Department of Solid Waste

New File PSD Permit
C-1005
H.C.SWERP

TGS:elj

PLEASE FIL[illegible]

Attachment

F.M. PALERMO
X TOM SWEENEY
X TOM HALL
BOB HARNETT
BILL HILL
X ROY SIMPSON
X J.R. TRESHLER
A. RITTNER
G. MILLS
P. RUPPEL
D.L. SOKOL
J.E. SALMON
P. WASIOWICH
T. NICOLAU
A. HILDABIDLE
X G.CRANE

OGDEN MARTIN SYSTEMS OF HILLSBOROUGH INC.

40 LANE ROAD
CN 2616
FAIRFIELD, NEW JERSEY 07007-2616
(201) 882-9503

Received DER

MAY 1 1987

BPS

Barry

May 1, 1987

DER

MAY 05 1987

BAQM

Mr. Hamilton S. Oven, Jr., P.E.
State of Florida
Department of Environmental Regulation
2600 Blair Stone Road
Tallahassee, Florida 32301

RE: Modification of Power Plant Site Certification No. PA 83-19 and Prevention of Significant Deterioration Permit No. PSD-FL-104 as amended July 2, 1986

Dear Mr. Oven:

On behalf of Ogden Martin Systems of Hillsborough County, Inc. (OMSH), I would like to thank you and your staff for meeting with representatives of Ogden Martin Systems, Inc. (Ogden) on April 10, 1987 at the Department of Environmental Regulation Offices in Tallahassee, Florida to discuss proposed modifications of the referenced permits. Based upon test data which has become available to the municipal solid waste combustion industry subsequent to the issuance of the aforesaid permits, it has become apparent that the Hillsborough County Resource Recovery Facility (Facility) will be unable to meet the permitted levels for nitrogen oxides (NOx) and sulfuric acid mist (H_2SO_4 mist) for reasons that will be set forth below. Accordingly, please consider this a formal request by OMSH, on behalf of Hillsborough County, for a modification of the permits in the following respects:

A. Adjust the permissible emission level of NO_x in the Power Plant Site Certification and the Prevention of Significant Deterioration Permit to 0.34 gr/dscf at 12 percent CO_2 for a three (3) hour average from 0.16 gr/dscf at 12 percent CO_2, the current permit level.

B. Adjust the permissible emission level of H_2SO_4 mist in the Prevention of Significant Deterioration Permit to 0.072 gr/dscf at 12 percent CO_2 for a three (3) hour average from 0.004 gr/dscf at 12 percent CO_2, the current permit level. The twenty-four (24) hour average H_2SO_4 mist emission level would be 0.027 gr/dscf at 12 percent CO_2.

A chart captioned Requested Permit Change for Hillsborough is attached hereto as Exhibit "A".

Based upon Ogden's experience with emissions from other refuse burning facilities which have recently gone into service, it appeared the Facility would not be able to comply with the permitted levels for NOx and sulfuric acid mist. This awareness generated our conference in Tallahassee. Recent testing at the Facility has confirmed our belief. The actual emission levels for NOx and H_2SO_4 mist exceed the permit levels. The requested adjustments are being sought to more realistically reflect emission levels in modern refuse burning facilities and to reflect permissible levels of these substances which have been approved by state regulatory agencies and/or the Environmental Protection Agency (EPA) in other regions. The increases being sought are minimal and will not cause or contribute to the facility exceeding acceptable ambient air quality standards. The specific reasons for the requested changes and the supporting data are outlined below.

NITROGEN OXIDES

The emission level for NOx originally adopted in the issued PSD permit was the same level that was requested in the application submitted in August, 1984. At the time of the submission of the application, 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 being sought herein.

As you are aware, NOx in combustion exhaust is the result of two chemical processes, namely, the conversion of nitrogen contained in the fuel and the oxidation of atmospheric N_2, or thermal NOx. Levels of NOx in modern energy recovery facilities are necessarily increased as a result of higher

operating temperatures. However, this increase is not without a concomitant reduction of harmful pollutants such as carbon monoxide and volatile organic compounds. For example, our preliminary tests indicate that the Facility is producing less than 15 percent of the permitted emission level of carbon monoxide and is performing in a similar manner to the Tulsa facility where volatile organic compounds have been lowered to the point where they are at "trace" levels at the lower level of detection using current EPA monitoring procedures. These harmful pollutants are greatly reduced by the controlled combustion temperatures produced by this facility. Therefore, there is a beneficial tradeoff of substantial reductions in harmful emissions for a small increase of nitrogen oxide emissions. It is for this reason that an adjustment of the emission level of NOx is being requested. Noteworthy is that a similar request for an upward adjustment for NOx was made by Ogden and accepted by the Tulsa City County Health Department and has been preliminarily accepted by the state of Oklahoma and the U.S. EPA for the Ogden facility in Tulsa, Oklahoma. For reference these permits bear numbers T84-23 and PSD-OK-556 M-2. The latter adjustments recognized the necessity of increasing the NOx emission level to be compatible with current technology.

A chart captioned Emission Test Data and Permit Levels for NOx and H_2SO_4 is attached hereto as Exhibit "B" which summarizes the data which have been assimilated by Ogden regarding NOx emissions. This chart shows emission levels of NOx from Ogden facilities and other similar plants for which NOx data are available.

SULFURIC ACID MIST

OMSH 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 H_2SO_4 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 H_2SO_4 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 ASME text published in 1974 involving a different type of

facility. A copy of this article is attached hereto as Exhibit "C". The findings in this reference source were based upon the burning of fuel oil at 25 percent excess air rather than combustion of municipal refuse at 90 to 100 percent excess air.

Based upon the experience of resource recovery facilities recently coming into service, the sulfuric acid mist levels originally requested and adopted are unrealistically low and require adjustment. It is important to note that even at the modified level requested, the amount of sulfuric acid mist emitted is still at trace levels and exceedingly difficult to accurately measure. Measurements which are able to be obtained show emission levels well within acceptable ambient air quality parameters.

One observation that should be made in connection with the present permitted level of H_2SO_4 mist is that no emission limit was listed for this pollutant in the original permit. When the permit was revised in July, 1986 regarding SO_2, the permissible level of SO_2 was adjusted upward in order to reflect current experience for short terms emissions, in addition a limit was assigned for H_2SO_4 mist which reflected a conversion rate of 2% based on the original permits SO_2 level. Since any increase in the allowable level of SO_2 will result in a proportionate increase in the amount of H_2SO_4, it was apparently an oversight that the H_2SO_4 emission level was established based on the lower original permit's SO_2 emission level and not on the revised increased SO_2 emission level approved as part of the July 1986 permit revision. Based upon Ogden's current experience with its resource recovery facility in Tulsa in which SO_2 is converted into H_2SO_4 at the rate of 15 to 18 percent by weight, the new emission level now being requested by OMSH would be consistent with the currently permitted SO_2 levels.

Data summarizing relevant information concerning sulfuric acid mist levels are attached in Exhibit "B". In addition, the air quality impact of the requested emission levels of NOx and H_2SO_4 are shown as a comparison to the existing permit levels in the table captioned "Air Quality Impact of Requested Emissions Levels" attached hereto as Exhibit "D". The NOx annual impact will be increased from 36 percent to 37 percent of the Florida Ambient Air Quality Standards. The H_2SO_4 eight (8) hour TLV and annual AAL (NYSDEC Air Guide 1) impact will be increased from .095 percent to 1.7 percent and from .82 percent

to 14.8 percent, respectively. These results are based on the modeling in the original application for a 1600 TPD facility operating at 110 percent with 100 percent availability. The present facility is 1200 TPD, thus the results presented should be conservative.

The Hillsborough County Resource Recovery facility is eligible to be dedicated and placed into service in the very near future and therefore all parties concerned are most anxious to expeditiously modify the captioned permits so that there will be as little delay as possible in placing the plant in service. We feel our meeting in Tallahassee was most beneficial and are formalizing our verbal request made at that time by way of this correspondence. We would respectfully request that the Department of Environmental Regulation take the lead in making the modifications in view of the fact that the EPA has delegated PSD permitting authority to the DER and the DER has had technical experience with this project since its inception. If any additional information is needed, we would be most willing to promptly supply the same. We would also be willing to meet again with your staff or with representatives of the EPA if that would expedite the understanding and handling of the present request.

Thanking you for your continued cooperation in this matter, we remain

Sincerely,

for Richard W Seelinger

Richard W. Seelinger
Executive Vice President

RWS/ecd
Enclosures

REQUESTED PERMIT CHANGE FOR HILLSBOROUGH

Pollutant	Existing Permit Levels (1)(2)		Requested Permit Levels	
	gr/dscf @ 12% CO_2	ppm @ 12% CO_2	gr/dscf @ 12% CO_2	ppm @ 12% CO_2
NO_x (3 hour average)	0.16	191	0.34	404
SO_2 (3 hour average)	0.45	388	No requested changes	
SO_2 (24 hour average)	0.17	146	No requested changes	
H_2SO_4 (3 hour average)	0.004	2.2	0.072*	39*
H_2SO_4 (24 hour average)**	NA	NA	0.027*	15*
$\%H_2SO_4/SO_2$ (3 hour average)**	0.9	0.6	16	10
$\%H_2SO_4/SO_2$ (24 hour average)**	NA	NA	16	10

References:
(1) U.S. EPA Permit PSD-FL-104
(2) Power Plant Siting Certificate PA 83-19

* The requested permit levels of H_2SO_4 are a function of the existing permit levels of SO_2 which are specified in the permit at 3 hour and 24 hour averages.

** These are not existing nor requested permit levels. This information is being given for comparison purposes only.

Notes: 1) NA is Not Applicable.
2) The $\%H_2SO_4/SO_2$ under gr/dscf at 12% CO_2 is by weight and under ppm @ 12% CO_2 is by volume.

EXHIBIT A

EMISSION TEST DATA AND PERMIT LEVELS FOR NO_x AND H_2SO_4

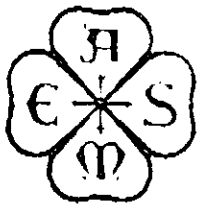
Pollutant	Tulsa		Marion	Wurzburg	Stockholm	Preliminary[5] Hillsborough Test Results
	Test ppm @ 12% CO_2	Permit ppm @ 12% CO_2	test ppm @ 12% CO_2	Test ppm @ 12% CO_2	Test ppm @ 12% CO_2	ppm @ 12% CO_2
NO_x	385[1]	404	357[3]	318[3]	311[4]	327
SO_2	85.4[4]	137.8	----------DATA NOT AVAILABLE----------			
H_2SO_4	12.4[4]	21.1	----------DATA NOT AVAILABLE----------			15.2
XH_2SO_4/SO_2	14.5	15.3	----------DATA NOT AVAILABLE----------			

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 Wurzburg, 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.

EXHIBIT B

Combustion Fundamentals for Waste Incineration



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United Engineering Center 345 East 47th Street New York, N.Y. 10017

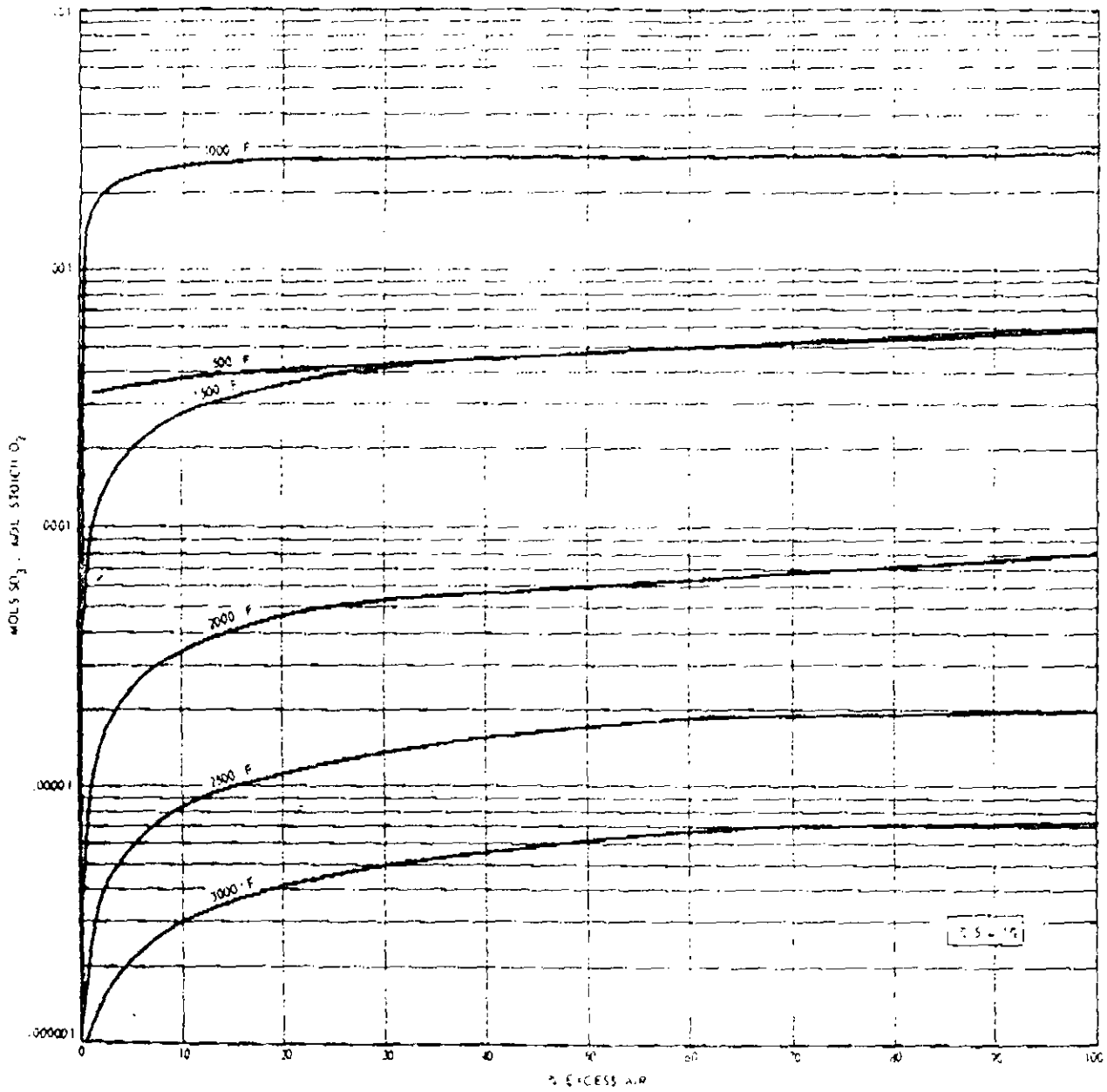

FIG. 8.1

ATTACHMENT "C" P. 4

EDITOR'S NOTE: Numbers in parentheses indicate equations. References are noted by numbers in brackets and appear at the end of their respective Chapter or Table. Numbered Source references (also in brackets) for Appendices G and H appear *only* within the text, since they primarily comprise text material.

Library of Congress Catalog Number 74-19743

Chapter 8 — Sulfur Oxides

When sulfur is present in a hydrocarbon fuel, it will form oxides under equilibrium combustion conditions. These can be either sulfur dioxide (SO_2) or sulfur trioxide (SO_3). The amount that goes to SO_3 in relation to SO_2 will always be small, but it is often important. The SO_3 form readily combines with water vapor to form a high dew point sulfuric acid that can be both visible and corrosive. Equilibrium calculations for sulfur containing hydrocarbon fuels were made in the following limits.

Sulfur Content: 0.67 to 5.47%
Excess Air: 0 to 100%
Temperature: 500 to 3000°F

The results are plotted on Fig. 8.1. Values of SO_3 expressed as mols per mol of stoichiometric oxygen are plotted vs. excess air in percent with values given along lines of constant temperature. The curve is drawn for 1 percent sulfur fuel content by weight. Values for other percent sulfur contents can be obtained by multiplying the curve by the ratio of the actual sulfur content to one.

Example.

A 2.8 percent sulfur fuel is burned at 2000°F with 25 percent excess air. Determine the ppm of SO_3 and SO_x if the hydrocarbon part of the fuel is represented by C_4H_5

From Fig. 8.1, a value of 0.00005 mols SO_3 per stoichiometric mol of O_2 is found at 2000°F and 25 percent excess air. This is for a 1 percent sulfur fuel

For a 2.8 percent sulfur fuel, the amount of SO_3 produced would be:

$(2.8)(0.00005) = 0.00014$ mols SO_3 per mol stoic. O_2

To convert to ppm:

1 mol C_4H_5 = 53 lbs
1-.028 = 0.972 lbs C_4H_5 per 0.028 lbs S
(0.028/32) = 0.000875 mols S/0.972 lbs C_4H_5
$\left(\frac{0.000875}{0.972}\right)(53)$ = 0.0477 mols S/mol C_4H_5

So:

$$C_4H_5 + 0.0477\,S + 1.25(5.25 + 0.0477)O_2 \longrightarrow 4\,CO_2 + 2.5\,H_2O + 0.00014(5.25 + 0.0477)SO_3 + [0.0477 - (0.00014(5.25 + 0.0477))]\,SO_2 + 0.25(5.25 + 0.0477)\,O_2 + (79/21)(1.25(5.25 + 0.0477))N_2$$

(Stoichiometry)

or:

$$C_4H_5 + 0.0477\,S + 6.622\,O_2 \longrightarrow 4\,CO_2 + 2.5\,H_2O + 0.0007417\,SO_3 + 0.04696\,SO_2 + 1.324\,O_2 + 24.912\,N_2$$

On a dry basis, the ppm of SO_3 is:

$$\text{ppm } SO_3 = \frac{0.0007417}{4 + 0.0007417 + 0.04696 + 1.324 + 24.912} \times 10^6$$

$$= \frac{0.0007417(10^6)}{30.2837} = 24.5$$

$$\text{ppm } SO_2 = \frac{0.04696(10^6)}{30.2837} = 1550.7$$

$$\text{ppm } SO_x = 24.5 + 1550.7 = 1575$$

Similar calculations can be made for any fuel whose molecular form or ultimate analysis is known. Note that for this particular case 1½ percent of the sulfur was converted to SO_3.

The relationship of mols to pounds per million Btu can also be calculated or approximated

Example:

Express the results of the previous example as lbs/10^6 Btu. Since neither a heat of formation nor heating value is available for C_4H_5, assume 1 mol of stoichiometric O_2 is equal to a fuel heating value of 184,000 Btu.

$$\frac{\text{lbs } SO_3}{10^6 \text{ Btu}} = \frac{0.00014 \text{ mols } SO_3}{\text{mol } O_2{}^*} \times \frac{\text{mol } O_2{}^*}{184{,}000 \text{ Btu}} \times 10^6 \times \frac{80 \text{ lbs}}{\text{mol } SO_3}$$

$$= 0.06$$

$$\frac{\text{lbs } SO_2}{10^6 \text{ Btu}} = \frac{1550.7 \text{ ppm } SO_2}{24.5 \text{ ppm } SO_3} \times \frac{64 \text{ lbs } SO_2}{80 \text{ lbs } SO_3} \times 0.06 = 3.014$$

JUL

JUL 7 1986

DER

AUG 22 1986

BAQM

4APT-AP/ch

CERTIFIED MAIL
RETURN RECEIPT REQUESTED

Mrs. Mary Cummings, Director
Department of Solid Waste
Post Office Box 1110
925 East Twiggs Street
Tampa, Florida 33601

RE: PSD-FL-104

Dear Mrs. Cummings:

Review of your December 13, 1985, application to construct a 1200 tons per day (tpy) Energy Recovery Facility in Hillsborough County, Florida, has been completed. The construction is subject to rules for the Prevention of Significant Deterioration (PSD) of air quality contained in 40 CFR §52.21. The Florida Department of Environmental Regulation (FDER) performed the preliminary determination concerning the proposed construction and published a request for public comment on April 6, 1986. On May 21, 1986, FDER prepared a final determination recommending issuance of the PSD permit by EPA. The final determination contains responses to issues raised during the public comment period.

The Environmental Protection Agency (EPA) has determined that the construction as described in the application meets all the applicable requirements of 40 CFR §52.21. Accordingly, pursuant to 40 CFR 124.15, the Regional Administrator has made a final decision to issue the enclosed Permit to Construct - Part I Specific Conditions and Part II General Conditions. This authority to construct, granted as of the effective date of the permit, is based solely on the requirements of 40 CFR §52.21, air quality. It does not apply to other permits issued by this Agency or by other agencies. Please be advised that a violation of any permit condition, as well as any construction which proceeds in material variance with information submitted in your application, will be subject to enforcement action.

This final permit decision is subject to appeal under 40 CFR 124.19 by petitioning the Administrator of the EPA within thirty (30) days after receipt thereof. The petitioner must submit a statement of reasons for the appeal and the Administrator must decide on the petition within a reasonable time period. If the petition is denied, the permit shall become effective upon notice of such action to the parties to the appeal. If no appeal is filed with the Administrator, the permit shall become effective thirty (30) days after receipt of this letter. Upon the expiration of the thirty (30) day period, EPA will notify you of the status of the permit's effective date.

Receipt of this letter does not constitute authority to construct. Approval to construct this facility shall be granted as of the effective date of the permit. The complete analysis which justifies this approval has been fully documented for future reference, if neccessary. Any questions concerning this approval may be directed to Mr. Bruce P. Miller, Acting Chief, Air Programs Branch at 404/347-2864.

Sincerely yours,

Winston A. Smith, Director
Air, Pesticides, & Toxics
Management Division

Enclosure

cc: Mr. Steve Smallwood, P. E., Chief
Bureau of Air Quality Management
Florida Department of Environmental Regulation

PFAFF:chaynes:x4253:6/10/86 GEN #4 DISK PFAFF ARONSON MILLER
FINAL DONE 6/13/86

RPM 6/16 VH 6/17 DPM 6/17/86

WAS 6/19/86

PERMIT TO CONSTRUCT UNDER THE RULES FOR THE PREVENTION

OF SIGNIFICANT DETERIORATION OF AIR QUALITY

Pursuant to and in accordance with the provisions of Part C, Subpart 1 of the Clean Air Act, as amended, 42 USC §7470 et. seq., and the regulations promulgated thereunder at 40 CFR §52.21, as amended at 45 Fed. Reg. 52676, 52735-41, (August 7, 1980).

Hillsborough County Department of Solid Waste

is, as of the effective date of this permit (PSD-FL-104) authorized to construct a stationary source at the following location:

0.6 miles North of State Route 60
between Faulkenburg Road
and the TECO transmission line corridor
in Hillsborough County, Florida

Upon completion of authorized construction and commencement of operation/production, this stationary source shall be operated in accordance with the emission limitations, sampling requirements, monitoring requirements and other conditions set forth in the attached Specific Conditions (Part I) and General Conditions (Part II)

This permit is hereby issued on JUL 2 1986 and shall become effective thirty (30) days after receipt hereof unless a petition for administrative review is filed with the Administrator during that time. If a petition is filed any applicable effective date shall be determined in accordance with 40 CFR §124.19(f)(1).

If construction does not commence within 18 months after the effective date of this permit, or if construction is discontinued for a period of 18 months or more, or if construction is not completed within a reasonable time, this permit shall expire and authorization to construct shall become invalid.

This authorization to construct/modify shall not relieve the owner or operator of the responsibility to comply fully with all applicable provisions of Federal, State, and local law.

Date Signed

Regional Administrator

copy of enclosure

PART I

Specific Conditions

1. Emission Limitations

a. Stack emissions from each unit shall not exceed the following:

(1) Particulate matter: 0.021 grains per dry standard cubic foot corrected to 12% CO_2 (gr/dscf-12%) or 7.0 pounds per hour per unit, whichever is more restrictive.

(2) Visible Emissions: Opacity of stack emissions shall not be greater than 15% opacity except that 20% opacity may be allowed for one six-minute period (average of 24 consecutive observations recorded at 15-second intervals) in any one hour. Excess opacity resulting from startup or shutdown shall be permitted providing (1) best operational practices to minimize emissions are adhered to and (2) the duration of excess opacity shall be minimized but in no case exceed two hours in any 24 hour period unless specifically authorized by EPA for longer duration.

Excess emissions which are caused entirely or in part by poor maintenance, poor operation, or any other equipment or process failure which may reasonably be prevented during start-up or shutdown shall be prohibited. Opacity of other emission points at the plant shall not exceed 5%.

(3) VOC: 0.01 gr/dscf-12%, or 0.2 lb/ton, whichever is more restrictive

(4) SO_2: 0.17 gr/dscf-12% or 3.2 lb/ton, whichever is more restrictive, 24-hour average, 0.45 gr/dscf-12% or 8.5 lb/ton, whichever is more restrictive, 3-hour average

(5) Nitrogen Oxides: 0.16 gr/dscf-12%, or 3.0 lb/ton, whichever is more restrictive

(6) Carbon Monoxide: 0.093 gr/dscf-12%, or 1.8 lb/ton, whichever is more restrictive.

(7) Lead: 0.00104 gr/dscf-12%, or 0.020 lb/ton, whichever is more restrictive.

(8) Fluorides: 0.0031 gr/dscf-12%, or 0.060 lb/ton, whichever is more restrictive.

(9) Sulfuric Acid Mist: 0.0040 gr/dscf-12%, or 0.077 lb/ton, whichever is more restrictive.

(10) Beryllium: 6.8 x 10-7 gr/dscf-12%, or 1.3 x 10-5 lb/ton, whichever is more restrictive.

(11) Each of the emission limits in conditions (1) and (3) through (10) is to be expressed as a 3-hour average. This averaging time, which is applicable to the emission limits for all pollutants, is based on the expected length of time for a particulate compliance test. The concentration standards in conditions (3) through (10) are included as the primary compliance limit to facilitate simpler compliance testing, since the process weight, in tons per hour, is not easily measured. The concentration limit is intended to be equivalent to the lb/ton limit. The concentration limits were derived by dividing the lb/ton limits by the calculated volume of flue gas produced when one ton of refuse is combusted. If actual process conditions, i.e., dscf per ton of refuse fired, are different than projected by the applicant, EPA may, at its discretion, determine compliance based upon the lb/ton limits.

(12) Mercury: 2200 grams/day

(13) The potential for dust generation by ash handling activities will be mitigated by quenching the ash prior to loading in ash transport trucks. Additionally, all portions of the proposed facility including the ash handling facility which have the potential for fugitive emissions will be enclosed. Also those areas which have to be open for operational purposes, e.g., tipping floor of the refuse bunker while trunks are entering and leaving, will be under negative air pressure.

(14) Each of the three units is subject to 40 CFR Part 60, Subpart E, New Source Performance Standards

(NSPS), except that where requirements in this permit are more restrictive, the requirements in this permit shall apply.

(15) Only natural gas will be used as an auxillary fuel.

b. Compliance Tests

(1) Compliance tests for particulate matter, SO_2, nitrogen oxides, CO, VOC, sulfuric acid mist, fluorides, mercury and beryllium shall be conducted in accordance with 40 CFR 60.8 (a), (b), (d), (e), and (f), except that an annual test will be conducted for particulate matter. Compliance tests for opacity will be conducted simultaneously during each compliance test run for particulate matter.

Compliance tests shall be conducted for such time and under such conditions as specified by EPA prior to the compliance test. These conditions will be specified by EPA upon notification of performance tests as required by General Condition 1. The permittee shall make available to EPA such records as may be necessary to determine the conditions of the performance tests.

(2) The following test methods and procedures from 40 CFR Parts 60 and 61 shall be used for compliance testing:

a. Method 1 for selection of sample site and sample traverses

b. Method 2 for determining stack gas flow rate when converting concentrations to or from mass emission limits.

c. Method 3 for gas analysis when needed for calculation of molecular weight or percent CO_2.

d. Method 4 for determining moisture content when converting stack velocity to dry volumetric flow rate for use in converting concentrations in dry gases to or from mass emission limits.

e. Method 5 for concentration of particulate matter and associated moisture content. One sample shall constitute one test run.

f. Method 9 for visible determination of the opacity of emissions.

g. Method 6 for concentration of SO_2. Two samples, taken at approximately 30 minute intervals, shall constitute one test run.

h. Method 7 for concentration of nitrogen oxides. Four samples, taken at approximately 15 minute intervals, shall constitute one test run.

i. Method 8 for determination of sulfuric acid mist concentration and associated moisture content. One sample shall constitute one test run.

j. Method 10 (continuous) for determination of CO concentrations. One sample constitutes one test run.

k. Method 12 for determination of lead concentration and associated moisture content. One sample constitutes one test run.

l. Method 25 for determination of volatile organic compounds (VOC) concentration. One sample shall constitute one test run.

m. Method 13A or 13B for determination of fluoride concentrations and associated moisture content. One sample shall constitute one test run.

n. Method 101A for determination of mercury emission rate and associated moisture content. One sample shall constitute one test run.

o. Method 104 for determination of beryllium emission rate and associated moisture content. One sample shall constitute one test run.

(3) The stack tests shall be performed at ±10% of the heat input rate of 150 million Btu per hour per boiler; however, compliance with the particulate matter emission limit shall be at design capacity.

2. The height of the boiler exhaust stack shall be 220 feet above ground level at the base of the stack.

3. The incinerator boilers shall not be loaded in excess of their rated capacity of 36,666 pounds per hour each.

4. The incinerator boilers shall have a metal name plate affixed in a conspicuous place on the shell showing manufacturer, model number, type waste, rated capacity and certification number.

5. The permittee must submit to EPA and DER within fifteen (15) days after it becomes available to the County, copies of technical data pertaining to the incinerator boiler design, to the electrostatic precipitator design, and to the fuel mix that can be used to evaluate compliance of the facility with the preceeding emission limitations.

6. Grease, scum, grit screenings or sewage sludge shall not be charged into the solid waste to energy facility boilers.

7. Electrostatic Precipitator

   The electrostatic precipitator shall be designed and constructed to limit particulate emissions to no more than 0.021 grains per dscf corrected to 12% CO_2.

8. Stack Monitoring Program

   The permittee shall install and operate continuous monitoring devices for stack oxygen and opacity. The monitoring devices shall meet the applicable requirements of Rule 17-2.710, FAC, 40 CFR Part 60, Subparts A and D, Sections 60.13 and 60.45 respectively, except that emission rates shall be calculated in units consistent with emission limits in this permit. The conversion procedure shall be approved by EPA.

9. Reporting

   a. A copy of the results of the stack tests shall be submitted within forty-five days of testing to the DER Southwest Florida District Office, the Hillsborough County Environmental Protection Commission (HCEPC) and EPA Region IV.

   b. Stack monitoring shall be reported to HCEPC, the DER Southwest District Office and EPA Region IV on a quarterly basis in accordance with Section 17-2.710, FAC, and 40 CFR, Part 60, Subsection 60.7.

10. Fuel

The Resource Recovery Facility shall utilize refuse such as garbage and trash (as defined in Chapter 17-7, FAC) but not sludge from sewage treatment plants as its fuel. Use of alternate fuels would necessitate application for a modification to this permit.

11. Addresses for submitting reports are:

a. EPA - Region IV

Chief, Air Compliance Branch
U.S. Environmental Protection Agency
345 Courtland St.
Atlanta, GA 30365

b. DER

Chief, Compliance and Ambient Monitoring
Bureau of Air Quality Management
Florida Department of Environmental Regulation
Twin Towers Office Building
2600 Blair Stone Road
Tallahassee, FL 32301

c. Southwest District Office of DER

District Manager
Department of Environmental Regulation
7601 Highway 301 N.
Tampa, FL 33610

d. HCEPC

Chief, Air Group
Hillsborough County Environmental Protection Commission
1900 9th Ave.
Tampa, FL 33605

12. The facility shall provide space for the future installation, if necessary, of a wet or dry flue gas scrubber.

PART II

General Conditions

1. The permittee shall comply with the notification and record-keeping requirements codified at 40 CFR Part 60, Subpart A, ¶ 60.7.

2. The permittee shall retain records of all information resulting from monitoring activities and information indicating operating parameters as specified in the specific conditions of this permit for a minimum of two (2) years from the date of recording.

3. If, for any reason, the permittee does not comply with or will not be able to comply with the emission limitations specified in this permit, the permittee shall provide EPA with the following information in writing within five (5) days of such conditions:

   (a) description of noncomplying emission(s),
   (b) cause of noncompliance,
   (c) anticipated time the noncompliance is expected to continue or, if corrected, the duration of the period of noncompliance,
   (d) steps taken by the permittee to reduce and eliminate the noncomplying emission, and
   (e) steps taken by the permittee to prevent recurrence of the noncomplying emission.

   Failure to provide the above information when appropriate shall constitute a violation of the terms and conditions of this permit. Submittal of the aforementioned information does not constitute a waiver of the emission limitations contained within this permit.

4. Any proposed change in the information submitted in the application regarding facility emissions or changes in the quantity or quality of materials processed that would result in new or increased emissions or ambient air quality impact must be reported to EPA. If appropriate, modifications to the permit may then be made by EPA to reflect any necessary changes in the permit conditions. In no case are any new or increased emissions allowed that will cause violation of the emission limitations specified herein. Any construction or operation of the source in material variance with the application shall be considered a violation of this permit.

5. In the event of any change in control or ownership of the source described in the permit, the permittee shall notify the succeeding owner of the existence of this permit and EPA of the change in control of ownership within 30 days.

6. The permittee shall allow representatives of the state and local environmental control agency or representatives of the EPA upon the presentation of credentials:

   (a) to enter upon the permittee's premises, or other premises under the control of the permittee, where an air pollutant source is located or in which any records are required to be kept under the terms and conditions of the permit;

   (b) to have access to and copy at reasonable times any records required to be kept under the terms and conditions of this permit, or the Clean Air Act;

   (c) to inspect at reasonable times any monitoring equipment or monitoring method required in this permit;

   (d) to sample at reasonable times any emissions of pollutants; and

   (e) to perform at reasonable times an operation and maintenance inspection of the permitted source.

7. The conditions of this permit are severable, and if any provision of this permit or the application of any provision of this permit to any circumstance is held invalid, the application of such provision to other circumstances and the remainder of this permit shall not be affected thereby.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION IV
345 COURTLAND STREET
ATLANTA, GEORGIA 30365

JUL 7 1986

4APT-AP/ch

CERTIFIED MAIL
RETURN RECEIPT REQUESTED

Mrs. Mary Cummings, Director
Department of Solid Waste
Post Office Box 1110
925 East Twiggs Street
Tampa, Florida 33601

RE: PSD-FL-104

Dear Mrs. Cummings:

Review of your December 13, 1985, application to construct a 1200 tons per day (tpd) Energy Recovery Facility in Hillsborough County, Florida, has been completed. The construction is subject to rules for the Prevention of Significant Deterioration (PSD) of air quality contained in 40 CFR §52.21. The Florida Department of Environmental Regulation (FDER) performed the preliminary determination concerning the proposed construction and published a request for public comment on April 6, 1986. On May 21, 1986, FDER prepared a final determination recommending issuance of the PSD permit by EPA. The final determination contains responses to issues raised during the public comment period.

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Sincerely yours,

Winston A. Smith

Winston A. Smith, Director
Air, Pesticides, & Toxics
Management Division

Enclosure

cc: Mr. Steve Smallwood, P. E., Chief
Bureau of Air Quality Management
Florida Department of Environmental Regulation

Condition of Certification

STATE OF FLORIDA

DEPARTMENT OF ENVIRONMENTAL REGULATION

TWIN TOWERS OFFICE BUILDING
2600 BLAIR STONE ROAD
TALLAHASSEE, FLORIDA 32301-8241

BOB GRAHAM
GOVERNOR

VICTORIA J. TSCHINKEL
SECRETARY

June 23, 1986

Mr. David S. Dee, Esquire
Carlton, Fields, Ward, Emmanuel,
Smith and Cutler, P.A.
Post Office Drawer 190
Tallahassee, FL 32301

Dear Mr. Dee:

Attached please find a revised copy of the Conditions of Certification for the Hillsborough County Energy Recovery Facility as approved by the Governor and Cabinet on June 17, 1986.

Sincerely,

Hamilton S. Oven, Jr.

Hamilton S. Oven, Jr., P.E.
Administrator
Siting Coordination Section

HSOjr/sh

cc: All Parties

State of Florida Department of Environmental Regulation
Hillsborough County
Energy Recovery Facility
Case No. 83-19
CONDITIONS OF CERTIFICATION Revised 6/17/86

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State of Florida
Hillsborough County
Energy Recovery Facility
Case No. PA 83-19
CONDITIONS OF CERTIFICATION

I. CONSTRUCTION

The facility shall be constructed, as a minimum, pursuant to the design standards presented in the application.

A. Control Measures

1. Stormwater Runoff

To control runoff during construction which may reach and thereby pollute Waters of the State, necessary measures shall be utilized to settle, filter, treat or absorb silt-containing or pollutant-laden stormwater to insure against spillage or discharge of excavated material that may cause turbidity in excess of 50 Jackson Turbidity Units above background in Waters of the State and to comply with Hillsborough County and Southwest Florida Water Management District stormwater regulations. Control measures may consist of sediment traps, barriers, berms, and vegetation plantings. Exposed or disturbed soil shall be protected and stabilized as soon as possible to minimize silt and sediment-laden runoff. The pH shall be kept within the range of 6.0 to 8.5.

2. Burning

Open burning in connection with land clearing shall be in accordance with Chapter 17-5, FAC, and applicable County regulations. No additional permits shall be required, but prior to each act of burning, the Division of Forestry shall be contacted to determine if satisfactory conditions exist for burning. Open burning shall not occur if the Division of Forestry has issued a ban on burning due to fire hazard conditions.

3. Sanitary Wastes

Disposal of sanitary wastes from construction toilet facilities shall be in accordance with applicable regulations of the appropriate local health agency.

4. Solid Wastes

Solid wastes resulting from construction shall be disposed of in accordance with the applicable regulations of Chapter 17-7, FAC.

5. Noise

Construction noise shall not exceed local noise ordinance specifications, nor those noise standards imposed by zoning.

6. Dust

The County shall employ proper dust-control techniques to minimize fugitive dust emissions.

7. Transmission Lines

The directly associated transmission lines from the Resource Recovery Facility electric generators to the existing Tampa Electric Company (TECO) substation shall be along the existing TECO right-of-way.

B. Environmental Control Program

An environmental control program shall be established under the supervision of a qualified person to assure that all construction activities conform to good environmental practices and the applicable conditions of certification.

If unexpected or harmful effects or evidence or irreversible environmental damage are detected during construction, the permittee shall notify the DER Southwest Florida District Office, 7601 Highway 301 North, Tampa, Florida, 33610, by telephone during the working day that the effect or damage occurs and shall confirm this in writing within seventy-two (72) hours of becoming aware of such conditions, and shall provide in writing an analysis of the problem land a plan to eliminate or significantly reduce the harmful effects of damage.

C. Reporting

1. Starting three (3) months after certification, a quarterly construction status report shall be submitted to the Southwest Florida District Office of the Department of Environmental Regulation. The report shall be a short narrative describing the progress of construction.

2. Upon completion of construction the DER Southwest Florida District Office will be notified in order that a pre-operational inspection can be performed.

II. OPERATION

A. Air

The operation of the Resource Recovery Facility shall be in accordance with all applicable provisions of Chapter 17-2, 17-4, and 17-7, Florida Administrative Code. In addition to the foregoing, the permittee shall comply with the following specific conditions of certification:

1. Emission Limitations

a. Stack emissions from each unit shall not exceed the following:

(1) Particulate matter: 0.021 grains per standard cubic foot dry gas corrected to 12% CO_2 with a maximum cap of 7.0 pounds per hour per unit

(2) SO_2: 3.2 lbs/ton of solid waste-fired, maximum 24 hour average

(3) Nitrogen Oxides: 3 lbs/ton

(4) Carbon Monoxide: 1.8 lbs/ton

Lead - .00104 gr or .02 lb/ton
Fluoride .0031 gr or .06 lb/ton
Sulfuric Acid Mist .0040 gr or .077 lbs/ton

(5) VOC: 0.2 lbs/ton or .01 gr/dscf (more restrictive)

(6) Mercury: 2200 grams/day = 4.84 lbs./day

(7) Odor: there shall be no objectionable odor

(8) Visible emissions: opacity shall not be greater than 15% except that visible emissions with no more than 20% opacity may be allowed for up to three minutes in any one hour except during start up or upsets when the provisions of 17-2.250, FAC, shall apply. Opacity compliance shall be demonstrated in accordance with Florida Administrative Code Rule 17-2.700(6)(a)., DER Method 9.

(9) Beryllium: 13.1 x 10^{-6} lbs/ton or 6.8×10^{-7} gr/dscf

b. The height of the boiler exhaust stack shall not be less than 220 feet above grade.

c. The incinerator boilers shall not be loaded in excess of their rated capacity of 36,666 pounds per hour each.

d. The incinerator boilers shall have a metal name plate affixed in a conspicuous place on the shell showing manufacturer, model number, type waste, rated capacity and certification number.

e. Compliance with the limitations for particulates, sulfur oxides, nitrogen oxides, carbon monoxide and lead shall be determined in accordance with Florida Administrative Code Rule 17-2.700, DER Methods 1, 2, 3, 5, 6, and 40 CFR 60, Appendix A, Method 7. Compliance with the opacity of stack emissions shall be demonstrated in accordance with Florida Administrative Code Rule 17-2.700(6)(a)9., DER Method 9. The stack test shall be performed at +10% of the heat input rate of 150 million Btu per hour; however, compliance with the particulate matter emission limit shall be at design capacity.

f. The permittee must submit to the Department within thirty (30) days after it becomes available, copies of technical data pertaining to the incinerator boiler design, to the electrostatic precipitator design, and to the fuel mix that can be used to evaluate compliance of the facility with the preceeding emission limitations.

g. Grease, scum, grit screenings or sewage sludge will not be charged into the solid waste to energy facility boilers.

2. Electrostatic Precipitator

The electrostatic precipitator shall be designed and constructed to achieve a maximum emission rate of 0.021 grains per dscf.

3. Air Monitoring Program

a. The permittee shall install and operate continuously monitoring devices for stack oxygen and opacity. The monitoring devices shall meet the applicable requirements of Chapter 17-2.710, FAC, and 40 CFR 60.45, and 40 CFR 60.13, including certification of each device.

b. The permittee shall provide sampling ports into the stack and shall provide access to the sampling ports in accordance with Section 17-2.700(4), FAC.

c. The permittee shall have a sampling test of the stack emissions performed by a commercial testing firm within 90 days of the start of operation of the boilers and annually from the date of testing thereafter.

4. Reporting

a. Two copies of the results of the stack tests shall be submitted within forty-five days of testing to the DER Southwest Florida District Office.

b. Stack monitoring shall be reported to the DER Southwest District Office on a quarterly basis in accordance with Section 17-2.710, FAC, and 40 CFR, Part 60, Subsection 60-7.

B. Fuel

The Resource Recovery Facility shall utilize refuse such as garbage and trash (as defined in Chapter 17-7, FAC) but not sludge from sewage treatment plants as its fuel. Use of alternate fuels would necessitate modification of these Conditions of Certification.

C. Cooling Tower

1. Make-up Water Constituency

a. The Resource Recovery Facility shall utilize only treated sewage effluent or stormwater runoff from the stormwater holding pond as cooling tower makeup water. The effluent shall have received prior to use in the tower, as a minimum, secondary treatment, as well as treatment described in Condition II.C.2 below. Use of waters other than treated sewage effluent or site stormwater, i.e., higher quality potable waters or lower quality less-than-secondarily treated sewage effluent will require a modification of conditions agreed to by the Southwest Florida Water Management District and the Department and must be approved by the Governor and Cabinet.

b. Notwithstanding the provisions of condition II.C.1.(a), Hillsborough County may use potable water as cooling

tower makeup water: (i) on an interim basis for 24 months; (ii) on an emergency basis, after the Northwest Brandon Subregional Wastewater Treatment Plant is operational, whenever the wastewater treatment plant is unable to produce treated wastewater of suitable quality or quantities, if the County determines and the SWFWMD agrees that it is not feasible to use other sources of water; and (iii) under such other circumstances as may arise, if such use is approved in writing by the DER and SWFWMD.

c. Hillsborough County may use treated effluent or potable water at any time as boiler makeup water.

d. Hillsborough County will report to the SWFWMD the daily quantities of potable or fresh water utilized as makeup water for the cooling tower. This data will be supplied on a monthly basis, with reports due by the 10th day of the month following data collection.

e. To implement condition II.C.1.(b)(ii), above, Hillsborough County shall submit reports to the SWFWMD concerning the feasibility of using other sources of water for emergency purposes. A progress report shall be submitted to SWFWMD on June 1, 1987 and a final report shall be submitted on June 1, 1988.

2. Chlorination

Chlorine levels in the cooling tower makeup water shall continuously be monitored, prior to insertion in the cooling towers. Sewage effluent from the Brandon Subregional Wastewater Treatment Plant or alternate used as makeup shall be treated if necessary

to maintain a 1.0 mg/liter total chlorine residual after fifteen minutes contact time at average daily flow, whichever provides a higher level of public health protection.

D. Water Discharges

1. Any discharges from the site stormwater treatment system via the emergency overflow structure shall meet State Water Quality Standards, Chapter 17-3, FAC, shall comply with Hillsborough County and Southwest Florida Water Management District regulations, and shall comply with Chapter 17-25, FAC.

2. Cooling tower blowdown shall not be discharged to surface waters.

E. Operational Safeguards

The overall design and layout of the facilities shall be such as to minimize hazards to humans and the environment. Security control measures shall be utilized to prevent exposure of the public to hazardous conditions. The Federal Occupational Safety and Health Standards will be complied with during construction and operation. The safety standards specified under Section 440.56, Florida Statutes, by the Industrial Safety Section of the Florida Department of Commerce will be complied with during operation.

F. Transmission Lines

The directly associated transmission lines from the Resource Recovery Facility electric generator to the TECO Substation shall be kept cleared without the use of herbicides.

C. Noise

Operational noises shall not exceed local noise ordinance limitations nor those noise standards imposed by zoning.-

III. CHANGE IN DISCHARGE

All discharges or emissions authorized herein shall be consistent with the terms and conditions of this certification. The discharge of any regulated pollutant not identified in the application, or more frequent than, or at a level in excess of that authorized herein, shall constitute a violation of the certification. Any anticipated facility expansions, production increases,or process modifications which may result in new, different, or increased discharges or pollutants, change in fuel, or expansion in steam generating capacity must be reported by submission of a new or supplemental application pursuant to Chapter 403, Florida Statutes.

IV. NON-COMPLIANCE NOTIFICATION

If, for any reason, the permittee does not comply with or will be unable to comply with any limitation specified in this certification, the permittee shall notify the Southwest Florida District Manager of the Department by telephone during the working day that said non-compliance occurs and shall confirm this in writing within seventy-two (72) hours of becoming aware of such conditions and shall supply the following information:

A. A description of the discharge and cause on non-compliance; and

B. The period of non-compliance, including exact dates and times; or, if not corrected, the anticipated time the non-compliance is expected to continue, and steps being taken to reduce, eliminate and prevent recurrence of the non-complying event.

V. FACILITIES OPERATION

The permittee shall at all times maintain in good working order and operate as efficiently as possible any treatment or control facilities or systems installed or used by the permittee to achieve compliance with the terms and conditions of this certification. Such systems are not to be bypassed without prior Department approval.

VI. ADVERSE IMPACT

The permittee shall take all reasonable steps to minimize any adverse impact resulting from non-compliance with any limitation specified in this certification, including such accelarated or additional monitoring as necessary to determine the nature and impact of the noncomplying discharge.

VII. RIGHT OF ENTRY

The permittee shall allow the Secretary of the Florida Department of Environmental Regulation and/or authorized representatives, upon the presentation of credentials:

A. To enter upon the permittee's premises where an effluent source is located or in which records are required to be kept under the terms and conditions of this permit, and

B. To have access to and copy any records required to be kept under the conditions of this certification, and

C. To inspect and test any monitoring equipment or monitoring method required in this certification and to sample any discharge or pollutants, and

D. To assess any damage to the environment or violation of ambient standards.

VIII. REVOCATION OR SUSPENSION

This certification may be suspended or revoked pursuant to Section 403.512, Florida Statutes, or for violations of any of its conditions.

IX. CIVIL AND CRIMINAL LIABILITY

This certification does not relieve the permittee from civil or criminal penalties for non-compliance with any conditions of this certification, applicable rules or regulations of the Department or Chapter 403, Florida Statutes, or regulations thereunder.

Subject to Section 403.511, Florida Statutes, this certification shall not preclude the institution of any legal action or relieve the permittee from any responsibilities, or penalties established pursuant to any other applicable State Statutes, or regulations.

X. PROPERTY RIGHTS

The issuance of this certification does not convey any property rights in either real or personal property, nor 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.

XI. SEVERABILITY

The provisions of this certification are severable, and if any provision of this certification or the application of any provision of this certification to any circumstances is held invalid, the application of such provision to other circumstances and the remainder of the certification shall not be affected thereby.

XII. DEFINITIONS

The meaning of terms used herein shall be governed by the definitions contained in Chapter 403, Florida Statutes, and any regulations adopted pursuant thereto. In the event of any dispute over the meaning of a term in these general or special conditions which is not defined in such statutes or regulations, such dispute shall be resolved by reference to the most relevant definitions contained in any other state or federal statute or regulation or, in the alternative, by the use of the commonly accepted meaning as determined by the Department.

XIII. REVIEW OF SITE CERTIFICATION

The certification shall be final unless revised, revoked or suspended pursuant to law. At least every five years from the date of issuance of certification the Department shall review all monitoring data that has been submitted to it during the preceding five-year period for the purpose of determining the extent of the permittee's compliance with the conditions of this certification and the environmental impact of this facility. The Department shall submit the results of its review and recommendations to the permittee. Such review will be repeated at least every five years thereafter.

XIV. MODIFICATION OF CONDITIONS

Pursuant to Subsection 403.516(1), F.S., the Board hereby delegates the authority to the Secretary to modify any condition of this certification dealing with sampling, monitoring, reporting, specification of control equipment, related time schedules, SO_2 emission limitations subject to notice and opportunity for hearing, or any special studies conducted, as necessary to attain the objectives of Chapter 403, Florida Statutes.

All other modifications shall be made in accordance with Section 403.516, Florida Statutes.

State of Florida Department of Environmental Regulation
Hillsborough County
Energy Recovery Facility
Case No. 83-19
CONDITIONS OF CERTIFICATION Revised 6/17/86

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State of Florida
Hillsborough County
Energy Recovery Facility
Case No. PA 83-19
CONDITIONS OF CERTIFICATION

I. CONSTRUCTION

The facility shall be constructed, as a minimum, pursuant to the design standards presented in the application.

A. Control Measures

1. Stormwater Runoff

To control runoff during construction which may reach and thereby pollute Waters of the State, necessary measures shall be utilized to settle, filter, treat or absorb silt-containing or pollutant-laden stormwater to insure against spillage or discharge of excavated material that may cause turbidity in excess of 50 Jackson Turbidity Units above background in Waters of the State and to comply with Hillsborough County and Southwest Florida Water Management District stormwater regulations. Control measures may consist of sediment traps, barriers, berms, and vegetation plantings. Exposed or disturbed soil shall be protected and stabilized as soon as possible to minimize silt and sediment-laden runoff. The pH shall be kept within the range of 6.0 to 8.5.

2. Burning

Open burning in connection with land clearing shall be in accordance with Chapter 17-5, FAC, and applicable County regulations. No additional permits shall be required, but prior to each act of burning, the Division of Forestry shall be contacted to determine if satisfactory conditions exist for burning. Open burning shall not occur if the Division of Forestry has issued a ban on burning due to fire hazard conditions.

3. Sanitary Wastes

Disposal of sanitary wastes from construction toilet facilities shall be in accorance with applicable regulations of the appropriate local health agency.

4. Solid Wastes

Solid wastes resulting from construction shall be disposed of in accordance with the applicable regulations of Chapter 17-7, FAC.

5. Noise

Construction noise shall not exceed local noise ordinance specifications, nor those noise standards imposed by zoning.

6. Dust

The County shall employ proper dust-control techniques to minimize fugitive dust emissions.

7. Transmission Lines

The directly associated transmission lines from the Resource Recovery Facility electric generators to the existing Tampa Electric Company (TECO) substation shall be along the existing TECO right-of-way.

B. Environmental Control Program

An environmental control program shall be established under the supervision of a qualified person to assure that all construction activities conform to good environmental practices and the applicable conditions of certification.

If unexpected or harmful effects or evidence or irreversible environmental damage are detected during construction, the permittee shall notify the DER Southwest Florida District Office, 7601 Highway 301 North, Tampa, Florida, 33610, by telephone during the working day that the effect or damage occurs and shall confirm this in writing within seventy-two (72) hours of becoming aware of such conditions, and shall provide in writing an analysis of the problem land a plan to eliminate or significantly reduce the harmful effects of damage.

C. Reporting

1. Starting three (3) months after certification, a quarterly construction status report shall be submitted to the Southwest Florida District Office of the Department of Environmental Regulation. The report shall be a short narrative describing the progress of construction.

2. Upon completion of construction the DER Southwest Florida District Office will be notified in order that a pre-operational inspection can be performed.

II. OPERATION

A. Air

The operation of the Resource Recovery Facility shall be in accordance with all applicable provisions of Chapter 17-2, 17-4, and 17-7, Florida Administrative Code. In addition to the foregoing, the permittee shall comply with the following specific conditions of certification:

1. Emission Limitations

a. Stack emissions from each unit shall not exceed the following:

(1) Particulate matter: 0.021 grains per standard cubic foot dry gas corrected to 12% CO_2 with a maximum cap of 7.0 pounds per hour per unit

(2) SO_2: 3.2 lbs/ton of solid waste-fired, maximum 24 hour average

(3) Nitrogen Oxides: 3 lbs/ton

(4) Carbon Monoxide: 1.8 lbs/ton

(5) VOC: 0.2 lbs/ton

(6) Mercury: 2200 grams/day

(7) Odor: there shall be no objectionable odor

(8) Visible emissions: opacity shall not be greater than 15% except that visible emissions with no more than 20% opacity may be allowed for up to three minutes in any one hour except during start up or upsets when the provisions of 17-2.250, FAC, shall apply. Opacity compliance shall be demonstrated in accordance with Florida Administrative Code Rule 17-2.700(6)(a)., DER Method 9.

(9) Beryllium: 13.1 x 10^{-6} lbs/ton

b. The height of the boiler exhaust stack shall not be less than 220 feet above grade.

c. The incinerator boilers shall not be loaded in excess of their rated capacity of 36,666 pounds per hour each.

d. The incinerator boilers shall have a metal name plate affixed in a conspicuous place on the shell showing manufacturer, model number, type waste, rated capacity and certification number.

e. Compliance with the limitations for particulates, sulfur oxides, nitrogen oxides, carbon monoxide and lead shall be determined in accordance with Florida Administrative Code Rule 17-2.700, DER Methods 1, 2, 3, 5, 6, and 40 CFR 60, Appendix A, Method 7. Compliance with the opacity of stack emissions shall be demonstrated in accordance with Florida Administrative Code Rule 17-2.700(6)(a)9., DER Method 9. The stack test shall be performed at ±10% of the heat input rate of 150 million Btu per hour; however, compliance with the particulate matter emission limit shall be at design capacity.

f. The permittee must submit to the Department within thirty (30) days after it becomes available, copies of technical data pertaining to the incinerator boiler design, to the electrostatic precipitator design, and to the fuel mix that can be used to evaluate compliance of the facility with the preceeding emission limitations.

g. Grease, scum, grit screenings or sewage sludge will not be charged into the solid waste to energy facility boilers.

2. Electrostatic Precipitator

The electrostatic precipitator shall be designed and constructed to achieve a maximum emission rate of 0.021 grains per dscf.

3. Air Monitoring Program

a. The permittee shall install and operate continuously monitoring devices for stack oxygen and opacity. The monitoring devices shall meet the applicable requirements of Chapter 17-2.710, FAC, and 40 CFR 60.45, and 40 CFR 60.13, including certification of each device.

b. The permittee shall provide sampling ports into the stack and shall provide access to the sampling ports in accordance with Section 17-2.700(4), FAC.

c. The permittee shall have a sampling test of the stack emissions performed by a commercial testing firm within 90 days of the start of operation of the boilers and annually from the date of testing thereafter.

4. Reporting

a. Two copies of the results of the stack tests shall be submitted within forty-five days of testing to the DER Southwest Florida District Office.

b. Stack monitoring shall be reported to the DER Southwest District Office on a quarterly basis in accordance with Section 17-2.710, FAC, and 40 CFR, Part 60, Subsection 60.7.

B. Fuel

The Resource Recovery Facility shall utilize refuse such as garbage and trash (as defined in Chapter 17-7, FAC) but not sludge from sewage treatment plants as its fuel. Use of alternate fuels would necessitate modification of these Conditions of Certification.

C. Cooling Tower

1. Make-up Water Constituency

a. The Resource Recovery Facility shall utilize only treated sewage effluent or stormwater runoff from the stormwater holding pond as cooling tower makeup water. The effluent shall have received prior to use in the tower, as a minimum, secondary treatment, as well as treatment described in Condition II.C.2 below. Use of waters other than treated sewage effluent or site stormwater, i.e., higher quality potable waters or lower quality less-than-secondarily treated sewage effluent will require a modification of conditions agreed to by the Southwest Florida Water Management District and the Department and must be approved by the Governor and Cabinet.

b. Notwithstanding the provisions of condition II.C.1.(a), Hillsborough County may use potable water as cooling

tower makeup water: (i) on an interim basis for 24 months; (ii) on an emergency basis, after the Northwest Brandon Subregional Wastewater Treatment Plant is operational, whenever the wastewater treatment plant is unable to produce treated wastewater of suitable quality or quantities, if the County determines and the SWFWMD agrees that it is not feasible to use other sources of water; and (iii) under such other circumstances as may arise, if such use is approved in writing by the DER and SWFWMD.

c. Hillsborough County may use treated effluent or potable water at any time as boiler makeup water.

d. Hillsborough County will report to the SWFWMD the daily quantities of potable or fresh water utilized as makeup water for the cooling tower. This data will be supplied on a monthly basis, with reports due by the 10th day of the month following data collection.

e. To implement condition II.C.1.(b)(ii), above, Hillsborough County shall submit reports to the SWFWMD concerning the feasibility of using other sources of water for emergency purposes. A progress report shall be submitted to SWFWMD on June 1, 1987 and a final report shall be submitted on June 1, 1988.

2. Chlorination

Chlorine levels in the cooling tower makeup water shall continuously be monitored, prior to insertion in the cooling towers. Sewage effluent from the Brandon Subregional Wastewater Treatment Plant or alternate used as makeup shall be treated if necessary

to maintain a 1.0 mg/liter total chlorine residual after fifteen minutes contact time at average daily flow, whichever provides a higher level of public health protection.

D. Water Discharges

1. Any discharges from the site stormwater treatment system via the emergency overflow structure shall meet State Water Quality Standards, Chapter 17-3, FAC, shall comply with Hillsborough County and Southwest Florida Water Management District regulations, and shall comply with Chapter 17-25, FAC.

2. Cooling tower blowdown shall not be discharged to surface waters.

E. Operational Safeguards

The overall design and layout of the facilities shall be such as to minimize hazards to humans and the environment. Security control measures shall be utilized to prevent exposure of the public to hazardous conditions. The Federal Occupational Safety and Health Standards will be complied with during construction and operation. The safety standards specified under Section 440.56, Florida Statutes, by the Industrial Safety Section of the Florida Department of Commerce will be complied with during operation.

F. Transmission Lines

The directly associated transmission lines from the Resource Recovery Facility electric generator to the TECO Substation shall be kept cleared without the use of herbicides.

G. Noise

Operational noises shall not exceed local noise ordinance limitations nor those noise standards imposed by zoning.

III. CHANGE IN DISCHARGE

All discharges or emissions authorized herein shall be consistent with the terms and conditions of this certification. The discharge of any regulated pollutant not identified in the application, or more frequent than, or at a level in excess of that authorized herein, shall constitute a violation of the certification. Any anticipated facility expansions, production increases,or process modifications which may result in new, different, or increased discharges or pollutants, change in fuel, or expansion in steam generating capacity must be reported by submission of a new or supplemental application pursuant to Chapter 403, Florida Statutes.

IV. NON-COMPLIANCE NOTIFICATION

If, for any reason, the permittee does not comply with or will be unable to comply with any limitation specified in this certification, the permittee shall notify the Southwest Florida District Manager of the Department by telephone during the working day that said non-compliance occurs and shall confirm this in writing within seventy-two (72) hours of becoming aware of such conditions and shall supply the following information:

A. A description of the discharge and cause on non-compliance; and

B. The period of non-compliance, including exact dates and times; or, if not corrected, the anticipated time the non-compliance is expected to continue, and steps being taken to reduce, eliminate and prevent recurrence of the non-complying event.

V. FACILITIES OPERATION

The permittee shall at all times maintain in good working order and operate as efficiently as possible any treatment or control facilities or systems installed or used by the permittee to achieve compliance with the terms and conditions of this certification. Such systems are not to be bypassed without prior Department approval.

VI. ADVERSE IMPACT

The permittee shall take all reasonable steps to minimize any adverse impact resulting from non-compliance with any limitation specified in this certification, including such accelerated or additional monitoring as necessary to determine the nature and impact of the noncomplying discharge.

VII. RIGHT OF ENTRY

The permittee shall allow the Secretary of the Florida Department of Environmental Regulation and/or authorized representatives, upon the presentation of credentials:

A. To enter upon the permittee's premises where an effluent source is located or in which records are required to be kept under the terms and conditions of this permit, and

B. To have access to and copy any records required to be kept under the conditions of this certification, and

C. To inspect and test any monitoring equipment or monitoring method required in this certification and to sample any discharge or pollutants, and

D. To assess any damage to the environment or violation of ambient standards.

VIII. REVOCATION OR SUSPENSION

This certification may be suspended or revoked pursuant to Section 403.512, Florida Statutes, or for violations of any of its conditions.

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Subject to Section 403.511, Florida Statutes, this certification shall not preclude the institution of any legal action or relieve the permittee from any responsibilities, or penalties established pursuant to any other applicable State Statutes, or regulations.

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The meaning of terms used herein shall be governed by the definitions contained in Chapter 403, Florida Statutes, and any regulations adopted pursuant thereto. In the event of any dispute over the meaning of a term in these general or special conditions which is not defined in such statutes or regulations, such dispute shall be resolved by reference to the most relevant definitions contained in any other state or federal statute or regulation or, in the alternative, by the use of the commonly accepted meaning as determined by the Department.

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XIV. MODIFICATION OF CONDITIONS

Pursuant to Subsection 403.516(1), F.S., the Board hereby delegates the authority to the Secretary to modify any condition of this certification dealing with sampling, monitoring, reporting, specification of control equipment, related time schedules, SO_2 emission limitations subject to notice and opportunity for hearing, or any special studies conducted, as necessary to attain the objectives of Chapter 403, Florida Statutes.

All other modifications shall be made in accordance with Section 403.516, Florida Statutes.

STATE OF FLORIDA

DEPARTMENT OF ENVIRONMENTAL REGULATION

TWIN TOWERS OFFICE BUILDING
2600 BLAIR STONE ROAD
TALLAHASSEE, FLORIDA 32301-8241

BOB GRAHAM
GOVERNOR

VICTORIA J. TSCHINKEL
SECRETARY

May 30, 1986

Mr. Bruce P. Miller
Acting Chief
Air Programs Branch
U.S. EPA, Region IV
345 Courtland Street, N.E.
Atlanta, Georgia 30365

Dear Mr. Miller:

RE: Final Determination - Hillsborough County Resource Recovery Facility, PSD-FL-104

Enclosed please find the department's response to your comments on the Final Determination for the subject project. We recommend that the applicant be granted Authority to Construct, subject to the conditions in the Final Determination as amended.

Sincerely,

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

CHF/pa

Enclosure

cc: David S. Dee
Bill Thomas
Iwan Choronenko

CARLTON, FIELDS, WARD, EMMANUEL, SMITH & CUTLER, P. A.

ATTORNEYS AT LAW

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TALLAHASSEE, FLORIDA 32302

(904) 224-1585

May 20, 1986

Mr. Ed Svec
Bureau of Air Quality Management
Department of Environmental Regulation
2600 Blair Stone Road
Tallahassee, Florida 32301

RE: Hillsborough County Resource Recovery Facility

Dear Ed:

I am sending you this letter to confirm our understanding about the comments you received from the U.S. Environmental Protection Agency concerning the Preliminary Determination and Draft Permit for the Hillsborough County resource recovery facility.

First, the EPA comment concerning Section 17-2.660, F.A.C., appears to be redundant. Section 17-2.660, F.A.C., establishes New Source Performance Standards that are based on the Clean Air Act, which is already cited in the Preliminary Determination. If EPA believes there is a meaningful distinction between Section 17-2.660, F.A.C. and the previously cited regulations, we would like to be advised in writing of this distinction so that we can determine whether to oppose the proposed EPA language. If, as it appears, there is no distinction, we have no objection to the additional citation recommended by EPA.

We have no objections to EPA's comments in their paragraphs no. 2, 3, 4, and 5.

With regard to EPA comment no. 6, Hillsborough County does not object to a permit requirement which states:

> "Hillsborough County shall provide space at the resource recovery facility for the future installation, if necessary, of a wet or dry flue gas scrubber."

The Hillsborough County facility is already substantially complete. It has space for a scrubber, if a scrubber is required by DER or EPA in the future. Please note, however, that the facility would need substantial additional work and retrofitting before a scrubber could be installed.

Finally, Hillsborough County disagrees with EPA's comment no. 7. Hillsborough County proposed an emission rate of 0.048 pounds per ton for lead. EPA proposed the emission limit of 0.020 pounds per ton. After substantial discussion, Hillsborough County reluctantly agreed to a permit condition of 0.020 pounds per ton, but that limit was not proposed by the County.

Sincerely,

David S. Dee

David S. Dee

DSD/mm

cc: Mary Cummings
Don Elias

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION IV
345 COURTLAND STREET
ATLANTA, GEORGIA 30365

DER

MAY 9 1986

BAQM

REF: 4APT/AP

C. H. Fancy, P. E.
Bureau of Air Quality Management
Department of Environmental Regulation
2600 Blair Stone Road
Tallahassee, Florida 32301

Dear Mr. Fancy:

We have several comments on your March 25, 1986, PSD Preliminary Determination and Draft Permit for the Hillsborough County Energy Recovery Facility.

1) Page 3: From our reading of the Florida regulations, it appears that the source would also be subject to 17-2.660, the state NSPS. If so, this should be mentioned in this paragraph, as well as at the end of this section and in IV.b. on Page 10.

2) Page 7: As agreed to by EPA in meetings with the County, the SO_2 3-hour limitation of 8.5 lb/ton is to protect the NAAQS, and is not necessarily BACT. BACT is 3.2 lb/ton 24-hour average.

3) Page 27: In Condition (11), "(2)" should be "(3)". Condition (2) is an opacity limit.

4) Page 28: In b.(1), the eighth line should begin with "during each" instead of "with the".

5) Table II-1: The emission rate for mercury should be 0.89 instead of 1.1.

6) The permit should contain a requirement that the facility include provision for the future installation of a wet or dry flue gas scrubber, if deemed necessary by EPA. This requirement is described on pages 9 and 10 of the Preliminary Determination.

7) Since the County has agreed to 0.020 lb/ton limit for lead, the list of emission rates proposed by the applicant on page 7 of the Preliminary Determination should include 0.020 for lead, instead of 0.048.

If you have any questions about our comments, please contact Roger Pfaff at (404) 347-4253.

Sincerely yours,

Bruce P. Miller
Acting Chief
Air Programs Branch
Air, Pesticides, & Toxics
Management Division