Memorandum

Florida Department of Environmental Protection

TO: Clair Fancy 1/27

THRU: Al Linero 1/27

FROM: Teresa Heron T.H.

DATE: January 27, 1998

SUBJECT: Hillsborough County Resource Recovery Facility
Air Pollution Control Equipment Retrofit

Attached is a draft modification to the PSD permit for this facility. This permit modification addresses the installation of the new air pollution control system to comply with the Emission Guideline for existing municipal solid waste combustors, 40 CFR 60, Subpart Cb.

The upgraded pollution control systems will consist of: spray dryer absorbers and fabric filters to control acid gases, particulate matter, and heavy metals; an activated carbon injection system for mercury control; selective non-catalytic reduction to control nitrogen oxides; and combustion controls for volatile organic compounds, carbon monoxide, and dioxins and furans.

The slate of authorized fuels is being expanded and defined from "refuse such as garbage and trash" to: non-hazardous solid waste including municipal solid waste (MSW) as defined at 40 CFR 60.51b; records and documents; non-hazardous contraband, clean wood and land clearing debris; oil spill debris; waste tires; expired or off-spec packaged or unpackaged consumable goods (e.g. pharmaceuticals); consumer products; packaging materials; certain floor covering; used oil and filters; and certain other wastes similar to MSW. We included limits (acceptable to the County) on these segregated wastes to insure the overall composition continues to comport to the typical characteristics of MSW.

We agreed to re-define their operating window to 115 percent of nominal throughput upon receiving reasonable assurance that the boilers are designed to operate within this range. Because of the short-term production increase, we compared past actual with future potential emissions and discovered increases. Because the facility has a single steam turbine and electrical generator producing over 25 MW we treated it as an electrical steam generating unit and compared future representative actual annual emissions with past actual emissions. Under this comparison, we found that there will be decreases of PSD-regulated pollutants.

The alternatives were to require Hillsborough County to accept lower emission limits than required by the EG, or accept annual steam or waste throughput limits equal to those of recent years, or to abide by their present 110% operating window. The smaller Tampa McKay facility may have to accept one of the alternatives because it does not qualify as a steam generating unit and also wants an expanded operating window. I informed both applicants of the possible ramifications well over one year ago.

I recommend your approval and signature.

AAL/th

Attachments

Department of Environmental Protection

Lawton Chiles
Governor

Twin Towers Office Building
2600 Blair Stone Road
Tallahassee, Florida 32399-2400

Virginia B. Wetherell
Secretary

P.E. Certification Statement

Permittee:

DEP File No. PSD-FL-121(B)

Hillsborough County
Resource Recovery Facility
Tampa, Hillsborough County

Project type:

Project to replace existing air pollution control equipment consisting of electrostatic precipitators, at a nominal 1200 TPD resource recovery facility, with new equipment consisting of selective non-catalytic reduction, activated carbon injection, lime spray dryer absorbers and fabric filters. An increase in short-term waste throughput and steam production was allowed which required a PSD applicability determination. A determination was made that PSD does not apply because "representative actual annual emissions" at a steam generating unit (three combustors together with one steam turbine and one generator producing more than 25 megawatts) will be reduced. The types of waste which can be burned at the facility were further defined and clarified.

I HEREBY CERTIFY *that the engineering features described in the above referenced application and subject to the proposed permit conditions provide reasonable assurance of compliance with applicable provisions of Chapter 403, Florida Statutes, and Florida Administrative Code Chapters 62-4 and 62-204 through 62-297. However, I have not evaluated and I do not certify aspects of the proposal outside of my area of expertise (including but not limited to the electrical, mechanical, structural, hydrological, and geological features).*

A A. Linero, P.E. — Date: 1/27/98
Registration Number: 26032

Department of Environmental Protection
Bureau of Air Regulation
New Source Review Section
111 South Magnolia Drive, Suite 4
Tallahassee, Florida 32301
Phone (850) 921-9523
Fax (850) 922-6979

aaL 1/27

CARLTON FIELDS

ATTORNEYS AT LAW

215 SOUTH MONROE STREET, SUITE 500
TALLAHASSEE, FLORIDA 32301-1866
TEL (904) 224-1585 FAX (904) 222 0398

MAILING ADDRESS:
POST OFFICE DRAWER 190
TALLAHASSEE, FL 32302-0190

January 13, 1998

Al Linero
Department of Environmental
Protection
2600 Blair Stone Road, MS. 5505
Tallahassee, Florida 32399-2400

RE: Hillsborough County Resource Recovery Facility
PA 83-19 & PSD-FL-121(B)

Dr. Mr. Linero:

On behalf Hillsborough County, we agree to a fourteen-day tolling of the time period within which the Florida Department of Environmental Protection must take proposed agency action on the pending application referenced above. The tolling period shall commence on Wednesday, January 14, 1998, and shall expire on January 28, 1998.

If you have any questions or would like to discuss regarding agreement, please do not hesitate to call.

Sincerely,

Martha Harrell Chumbler

cc: Hamilton Oven/DEP
Teresa Heron/DEP
Thomas Smith/Hillsborough County
Daniel Strobridge/CDM
Don Elias/RTP

CDM Camp Dresser & McKee Inc.

consulting
engineering
construction
operations

1715 North Westshore Boulevard, Suite 875
Tampa, Florida 33607
Tel: 813 281-2900 Fax: 813 281-8787

January 13, 1998

Ms. Teresa Heron, P.E.
Engineer, New Source Review Section
Florida Department of Environmental Protection
Twin Towers Office Building
2600 Blair Stone Road
Tallahassee, Florida 32399-2400

Subject: Hillsborough County Operating Window

Dear Ms. Heron:

You have requested that CDM provide you reasonable assurance that increasing the operating window to allow a heat input rate of up to 172.5 MM Btu/hr will not result in an increase in future particulate matter (PM) emissions over current actual particulate matter emissions.

The following is provided:

Table 1, attached, compares existing actual particulate matter stack test data for the Hillsborough County Facility, which has an ESP, with stack test data for the Pasco County Facility, which has a Spray Dyer/Fabric Filter. The Pasco County Facility, with air pollution control equipment similar to that proposed for the Hillsborough County Facility, produces particulate matter stack concentrations that are less than one-third of the Hillsborough County Facility's concentrations. Put another way, the Pasco County Facility stack test data suggest that an actual emissions reduction of about 71 percent could be reasonably expected from the air pollution equipment upgrade proposed for the Hillsborough County Facility. Table 2 makes an even more dramatic comparison with the new Lee County Facility, which also has a Spray Dryer/Fabric Filter. While only the acceptance test data for the Lee County Facility are available, it suggests that up to a 91 percent reduction in actual particulate matter emissions could occur after the air pollution control upgrade.

Although this is not a rigorous analysis, these comparisons show that actual particulate matter emissions from the Hillsborough County Facility could drop by approximately 65 to 90 percent after the air pollution control equipment upgrade. Substantial actual emissions decreases can still be expected, therefore, even after an increase in the permitted heat input from 165 MM Btu/hr to 172.5 MM Btu/hr, a 4.5 percent increase. Based on this data, it is CDM's opinion that it is reasonable to expect that future particulate matter emissions will be less than existing particulate matter emissions under the proposed maximum heat input (172.5 MM Btu/hr).

If you have any questions in this regard, do not hesitate to contract us.

Sincerely,

CAMP DRESSER & McKEE INC.

Daniel E. Strobridge
Associate

Douglas W. Fredericks
Vice-President

c: Tom Smith

TABLE 1

HILLSBOROUGH COUNTY SOLID WASTE ENERGY RECOVERY FACILITY
STACK TEST DATA COMPARISONS
Particulate Matter (in gr/dscf @ 12% CO2)

Year	Hillsborough County SWERF (400-tpd Unit; ESP)				Pasco County SWRRF (300-tpd Unit; Spray Dryer / Fabric Filter)			
	Unit 1	Unit 2	Unit 3	Facility	Unit 1	Unit 2	Unit 3	Facility
1987	0.005	0.006	0.003	0.005	---	---	---	---
1988	0.0043	0.0059	0.0058	0.0053	---	---	---	---
1989	0.0040	0.0050	0.0038	0.0043	---	---	---	---
1990	0.0186	0.0125	0.0159	0.0157	---	---	---	---
1991	0.0077	0.0085	0.0075	0.0079	0.0004	0.0002	0.0016	0.00073
1992	0.0127	0.0038	0.0064	0.0076	0.0016	0.0043	0.0021	0.00267
1993	0.00334	0.00721	0.00781	0.00612	0.00228	0.00229	0.00266	0.00241
1994	0.00657	0.00477	0.00564	0.00566	0.00165	0.00148	0.00147	0.00153
1995	0.00522	0.00571	0.00518	0.00537	0.00233	0.00193	0.002	0.00209
1996	0.0020	0.0023	0.0023	0.0022	0.00063	0.0014	0.00062	0.00088
1997	---	---	---	---	0.004	0.0024	0.0022	0.00287
Average	0.0069	0.0062	0.0063	0.0065	0.0018	0.0020	0.0018	0.0019
Permit Limit				0.021				0.015

TABLE 2

HILLSBOROUGH COUNTY SOLID WASTE ENERGY RECOVERY FACILITY
STACK TEST DATA COMPARISONS
Particulate Matter (in gr/dscf @ 7% O2) [1]

Year	Hillsborough County SWERF (400-tpd Unit; ESP)				Lee County SWRRF (600-tpd Unit; Spray Dryer / FF)		
	Unit 1	Unit 2	Unit 3	Facility	Unit 1	Unit 2	Facility
1987	0.005	0.007	0.003	0.005	---	---	---
1988	0.0047	0.0065	0.0063	0.0058	---	---	---
1989	0.0044	0.0055	0.0042	0.0047	---	---	---
1990	0.0203	0.0137	0.0174	0.0171	---	---	---
1991	0.0084	0.0093	0.0082	0.0086	---	---	---
1992	0.0139	0.0042	0.0070	0.0083	---	---	---
1993	0.00365	0.00789	0.00854	0.00669	---	---	---
1994	0.00719	0.00522	0.00617	0.00619	0.0006	0.0007	0.00065
1995	0.00571	0.00625	0.00567	0.00587	---	---	---
1996	0.0022	0.0025	0.0025	0.0024	---	---	---
Average	0.0076	0.0067	0.0069	0.0071	0.0006	0.0007	0.0007
Permit Limit				0.023			0.010

Note: [1] Hillsborough County stack test data and emission limit reported as gr/dscf @ 12% CO2. They were converted to gr/dscf @ 7% based on actual flue gas concentrations of 9.745% CO2 and 10.58% O2, from BURN model output.

CDM Camp Dresser & McKee Inc.

consulting engineering construction operations

1715 North Westshore Boulevard, Suite 875
Tampa, Florida 33607
Tel: 813 281-2900 Fax: 813 281-8787

January 9, 1998

Ms. Teresa Heron P.E.
Engineer, New Source Review Section
Florida Department of Environmental Protection
Twin Towers Office Building
2600 Blair Stone Road
Tallahassee, Florida 32399-2400

Subject: Hillsborough County Retrofit Steam Calculation

Dear Ms. Heron:

Transmitted, herewith, are the steam calculations for the Hillsborough County WTE Facility. Two steaming rates are provided together with the boiler design basis. As indicated, the boilers, as installed, are designed for a heat rate input of 159.9 MM Btu/hr which represents the combined heat release from the solid fuel (150 MM Btu/hr) and 9.9 MM Btu/hr from the combustion air preheaters. The normal operation steam flow set point is for approximately 98,000 lbs/hr (per boiler), representing 110% of the existing permit value.

Our requested heat input load is 107.9% of boiler design or 172.5 MM Btu/hr. This is equivalent to a steam flow of approximately 102,000 lbs/hr.

I will be forwarding to you our revised proposed "acceptable fuels" definition within the next day or so.

If you have you any questions or comments, do not hesitate to call me.

Sincerely,

CAMP DRESSER & McKEE INC.

Daniel E. Strobridge
Associate

c: Thomas Smith, Hillsborough County
Martha Chumbler, Carlton Fields
Don Elias, RTP

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BOILER HEAT LOAD CALCULATION

The following explanation illustrates how the Heat Input Rate can be calculated using Steam Flow as a surrogate measurement

HEAT OUTPUT

The Heat Output is calculated based upon the measured steam flow, temperature, & pressure along with the Feedwater pressure. Using thermodynamic steam tables, the energy (enthalpy) in the steam & feedwater can be found based upon their temperature & pressure. The difference between the enthalpy of the steam & feedwater is the amount of energy necessary to create that pound of steam.

The Heat Output of the boiler is the rate of steam production (flow) multiplied by the energy required to produce a lb of that steam or:

$$\textit{Heat Output} = (\textit{Steam Flow}) \times (\textit{Steam Enthalpy} - \textit{Feedwater Enthalpy}) \times \left(\frac{\textit{MMBtu}}{1{,}000{,}000\ \textit{Btu}} \right)$$

where: *Heat Output* is measured in MMBtu/hr
Steam Flow is measured in lbs/hr
Enthalpy is measured in Btu/lb

HEAT INPUT

Once the Heat Output is determined, the design boiler efficiency can be used to determine the Heat Input. Efficiency is a measure of the effectiveness of a piece of equipment (*in this case a boiler*) in performing its designed function (*in this case converting energy in the fuel into an alternate form of energy in the high pressure steam*). The design boiler of the Hillsborough boilers is 68.26% meaning 68.26% of the energy entering the boiler as fuel is converted to steam energy.

This formula would be:

$$\textit{Boiler Efficiency} = \frac{\textit{Heat Output}}{\textit{Heat Input}}$$

where: *Heat Input and Heat Output* is measured in MMBtu/hr
Boiler Efficiency is a dimension less quantity in decimal form 68.26% is 0.6826

The equation can also be written as:

$$\textit{Heat Input} = \frac{\textit{Heat Output}}{\textit{Boiler Efficiency}}$$

BOILER DESIGN BASIS

Using the following assumptions, an example of this calculation would be:

Assuming: Steam Flow of 94,270 lbs/hr
Steam Enthalpy = 1378.86 Btu/lb
Feedwater Enthalpy = 220.82 Btu/lb
Boiler Efficiency = 68.26%

$$\textit{Heat Output} = \left(94{,}270\ \frac{lbs}{hour}\right) x \left(1378.86\ \frac{Btu}{lb} - 220.82\ \frac{Btu}{lb}\right) x \left(\frac{MMBtu}{1{,}000{,}000\ Btu}\right) = 109.17\ \frac{MMBtu}{hr}$$

$$\textit{Heat Input} = \left(\frac{109.17\ \frac{MMBtu}{hr}}{0.6826}\right) = 159.9\ \frac{MMBtu}{hr}$$

DERIVATION

Using the previous calculation methodology & basic algebra, it is possible to derive a method of calculating what steam flow would be associated with a given Heat Input.
The results of this derivation is:

$$\textit{Steam Flow} = \left(\frac{\textit{Heat Input x Efficiency}}{(\textit{Steam Enthalpy} - \textit{Feedwater Enthalpy}) \times \frac{\textit{MMBtu}}{1{,}000{,}000 \textit{Btu}}} \right)$$

110% OF EXISTING PERMIT

For: Heat Input = 165 MMBtu
Steam Enthalpy = 1378.86 Btu/lb
Feedwater Enthalpy = 220.82 Btu/lb
Boiler Efficiency = 68.26%

$$\textit{Steam Flow} = \left(\frac{165 \frac{\textit{MMBtu}}{\textit{hr}} \times 0.6826}{\left(1378.86 \frac{\textit{Btu}}{\textit{lb}} - 220.82 \frac{\textit{Btu}}{\textit{lb}}\right) \times \frac{\textit{MMBtu}}{1{,}000{,}000\ \textit{Btu}}} \right) = 97{,}355 \frac{\textit{lbs}}{\textit{hr}}$$

107.9% OF BOILER DESIGN

(115% OF EXISTING PERMIT)

For: Heat Input = 172.5 MMBtu
Steam Enthalpy = 1378.86 Btu/lb
Feedwater Enthalpy = 220.82 Btu/lb
Boiler Efficiency = 68.26%

$$\textit{Steam Flow} = \left(\frac{172.5 \frac{\textit{MMBtu}}{\textit{hr}} \times 0.6826}{\left(1378.86 \frac{\textit{Btu}}{\textit{lb}} - 220.82 \frac{\textit{Btu}}{\textit{lb}}\right) \times \frac{\textit{MMBtu}}{1{,}000{,}000\ \textit{Btu}}} \right) = 101{,}679 \frac{\textit{lbs}}{\textit{hr}}$$

Memorandum

Florida Department of
Environmental Protection

TO: John Brown
Larry George
Pat Comer
Mike Hewett
Mike Harley

THRU: Al Linero

FROM Teresa Heron T.H.

DATE: November 22, 1996

SUBJECT: Hillsborough County Resource Recovery Facility
City of Tampa's Mc Kay Bay Resource Recovery Facility
MSW-EG definitions and MSW-EG requirements

If you have any comments on these requests , please let us know at your earliest convenience. These requests were received on November 20, 1996.

Al:
I gave a hard copy of all the ETP's letters to each one and E-mailed to Jerry Kissel and D. Campbell
↓
a memo (copy to you)

I will be reading at home the EIS.

Date: 11/25/96 3:51:05 PM
From: Michael Hewett TAL
Subject: Hillsborough County RRF
To: Teresa Heron TAL

Teresa,

I have reviewed the information you sent to me on November 22 concerning the Hillsborough County and City of Tampa resource recovery facilities. I do not have any comments concerning their proposed VE limit for fugitive ash and minor PM sources except to say that what they are requesting seems reasonable given EPA's new standards.

As for the definition of MSW and how it should be applied, this is an issue we are currently working on with the Pasco County RRF. In a recent meeting, representatives of Pasco County and Ogden Martin met with DEP to discuss broadening the permit condition that limits what they can burn. We told them that we would make a determination concerning which definition of MSW should apply and what segregated wastes fall under the definition of MSW in a few months. Clair said that he would assign this task to one of the permitting engineers in his bureau. I believe this is basically the request that Hillsborough and Tampa are making.

CDM Camp Dresser & McKee Inc.

consulting
engineering
construction
operations

1715 North Westshore Boulevard, Suite 875
Tampa, Florida 33607
Tel: 813 281-2900 Fax: 813 288-8787

November 11, 1997

Mr. Hamilton (Buck) Oven, P.E.
Power Plant Siting
Florida Department of Environmental Protection
Twin Towers Office Building
MS 48
2600 Blair Stone Road
Tallahassee, Florida 32399-2400

Subject: Hillsborough County Resource Recovery Facility PA 83-19 and PSD-FL-121(B)

Dear Mr. Oven:

The following letter contains Hillsborough County's responses to the Department's and Hillsborough County Environmental Protection Commission's (HCEPC) request for additional information. The questions are in italics and are followed by the County's responses.

The following were questions/comments posed by DEP:

POLLUTANT INFORMATION

1. *Table 1-1 provides a comparison of existing permitted and proposed emission limits. Please submit actual emissions (TPY for a two years period) of all pollutants pursuant to Rule 62-212.400(2)(e) F.A.C., for each of the boilers that is representative of the normal operation of each unit prior to the retrofit project.*

Response: We have only limited test data with which to characterize existing actual emissions. The Facility's current air permit (see Appendix A of Volume II) requires an initial compliance test for PM, SO_2, NO_X, CO, VOC, H_2SO_4, fluorides, mercury and beryllium, and subsequent annual testing for PM only. NO_X testing was conducted in 1994 (for Units 2 and 3 only). Mercury testing was added to the PM testing in 1994, 1995 and 1996. Therefore, except for PM, mercury, and one NO_X test, the most recent available data is from the 1987 acceptance tests. The 1987 Acceptance Test data is shown in Appendix E of Volume II for your reference. All of the available test data is summarized in Exhibit 1, attached. The Exhibit also expresses the available data as tons per year for a two-year period (or one year if only one stack test was conducted). Because this is an air pollution control equipment retrofit, and no other changes are being made to the Facility, future actual emissions will be less than the existing actual emissions shown in Exhibit 1.

The rule cited in the request above, Rule 62-212.400 (2) (e) F.A.C., is a reference to calculation of net emissions increases for a PSD applicability determination. We believe that

this project qualifies for the Pollution Control Project Exemption in Rule 62-212.400 (2) (a) 2., and, therefore, should not be subject to a PSD applicability determination. This exemption applies to a "pollution control project that is being added, replaced, or used at an existing electric utility steam generating unit . . ." The Hillsborough County Facility is an existing steam generating unit producing electricity. Because it has been permitted under the Power Plant Siting Act, it should be subject to this electric utility exemption.

The U.S. EPA has also issued guidance to states to exempt certain air pollution control projects in other source categories (besides electric utility steam generating units) from the NSR/PSD requirements (John S. Seitz, Director, Office of Air Quality Planning and Standards, Memorandum to EPA Regional Air Division Directors on the Subject of Pollution Control Projects and New Source Review (NSR) Applicability, July 1, 1994). The Hillsborough County Solid Waste Energy Recovery Facility Air Pollution Control Equipment Retrofit project meets all the criteria in the guidance memo for exemption:

- the project is limited to the installation of conventional or innovative air pollution control equipment;
- the purpose of the project is the reduction of air pollutants subject to regulation under the Clean Air Act at an existing major source;
- the project is, on balance, environmentally beneficial; and
- the project will not cause or contribute to a violation of a NAAQS, PSD increment, or adversely impact an AQRV in a Class I Area (see Section 6.0, Volume II of the permit application).

Because this project is an air pollution control project meeting the criteria for NSR exemption, we would like to request that existing actual emissions information not be the basis for an applicability determination.

2. *Are the emissions from the auxiliary burners included in the total emission from the facility?*

Response: Yes. The auxiliary burner emissions are included in the total emissions for the Facility, even though they are not explicitly broken out in the emissions calculations. This is because the EG emissions limits are flue gas pollutant concentrations that are limiting no matter what fuel is burned in the units (except during start-up, shut-down, or malfunction). The EG apply to all the flue gases going past the air pollution control equipment and out the stack, which would be the fate of the auxiliary burner gases. In calculating the maximum potential to emit in Table 1-1 of Volume II of the permit application, we assumed that the Facility would be emitting at EG levels 100 percent of the time, 24 hours a day, 365 days a

year. This is a conservative upper bound for all emissions from the stack, including auxiliary burner emissions.

3. *Calculate pollutant emissions at all levels of the operations window proposed (lb/MMBtu, lb/hr, lb/ton and ton/yr).*

Response: All of the information requested is presented in Exhibit 2 except emissions expressed as lb/ton. As Cynthia Hibbard discussed with Teresa Heron on October 24, 1997, emissions are directly proportional to the feed rate of combustible material to each MWC unit. The combustible fraction of each ton of solid waste, which is proportional to its energy content, varies substantially from ton to ton. For this reason, Ms. Heron agreed that lb/ton was not as representative a descriptor of emissions as the other measures you have requested.

The information in Exhibit 2 has been derived from Volume II, Table 6-1, which shows all operating window cases evaluated in the screening modeling and the heat release for each case, Table 6-3, which shows emissions and flue gas parameters for all of these cases, and Table 6-8, which shows the pollutant-specific emission rates for the Facility as a whole. Please note that everywhere in the permit application where pollutant-specific emission rates are reported, they are for all three units at the **worst-case** operating condition, which is Case No. 3 (see Figure 6-4 and Table 6-1, Vol. II).

4. *Does this RRF expect to receive MSW from other counties?*

Response: Presently, more waste is generated in Hillsborough County than can be processed by Hillsborough County's Facility. The expectation is that out-of-County waste will not be processed, however, Hillsborough County wishes to reserve its option to process out-of-County waste if and when doing so makes sense.

5. *Describe, if any, Hillsborough County's recycling program (source separation, composting, waste reduction, etc.). Are household batteries and lead-acid batteries removed from the waste stream?*

Response: Hillsborough County has a very aggressive recycling program. Curbside recycling is provided by the County's three franchised haulers and it is available to all residential route customers. Materials collected include: newspaper, corrugated paper, brown paper bags, mixed office paper, junk mail, magazines, telephone books, glass, aluminum, plastic (resins 1 and 2) and steel containers, and yard waste. Hillsborough County conducts a public education program which encourages residents to take spent Nickel-Cadmium (Ni-Cd) batteries back to the place of purchase. Small Sealed Lead Acid (SSLA) and Ni-Cd batteries are expressly prohibited from disposal in the County's solid waste system. Hillsborough County provides collection centers for these as well as for used motor oil. Other household batteries are no longer part of the recycling program because these no longer contain

mercury. Exhibit 3 contains additional information about Hillsborough County's recycling program.

Please note that the Emission Guidelines (EG) do not include any recycling program requirements to comply with the EG and Hillsborough County does not believe that the availability or performance of a recycling program should be considered as a condition to approving its application to amend its Power Plant Site Certification. As such, Hillsborough County, pursuant to 62-4.055(4) F.A.C., requests that the Department process its application without regard to the information contained in this response to question number 5.

6. *Indicate which of the wastes specified in the application are already burned at this facility. Provide annual tonnage of waste processed by this facility over the last five years along with any heat content determination that have been made for the waste burned.*

Response: Hillsborough County believes that all of the waste materials specified in the County's application are currently received and processed at the Facility as part of the County's normal solid waste stream. The proposed specification is offered simply to clarify and more precisely define allowable fuels and the manner in which they are handled. The overall waste throughput quantities are not expected to change. The fuel quantity and quality will generally normalize around past throughput quantities and fuel quality. Hillsborough County presently operates a solid waste profile program whereby all non-residential solid waste generators are required to provide a characterization of their solid wastes. The purpose of this program is to assure the proper management of all solid wastes generated within Hillsborough County. A copy of the County's Solid Waste Profile Form is included as Exhibit 4.

The quantities of waste processed at the Facility over the past five years (year ending September 30) together with the annual average heating value (Btu/lb) are summarized below:

Year	Tons Processed	Annual Avg. HHV
1997	401,368	5,019
1996	422,343	4,856
1995	422,005	4,861
1994	418,423	4,845
1993	418,854	4,863

Please note that monthly average solid waste heating values range from a low of 4,300 to a high of 5,239 Btu/lb over the five-year period shown above.

7. *Pursuant to Rules 62-4.070(3), F.A.C., please provide reasonable assurance that the burning of the proposed wastes as specified on page 2-17 and 2-18 will not contravene Department rules or contribute to an exceedance of the E.G. standards for Municipal Solid Waste Facilities (40 CFR 60, Subpart Cb). Include all assumptions, reference materials and calculations (i.e., test data or emission estimates from other RRFs burning these types of wastes, quantity of the properties specified waste products to be burned, percentage of heat input from each waste fuel analysis, etc.). How will the proposed specification of the fuels affect overall waste throughput quantities?*

Response: The overall waste throughput quantities will not be affected by the proposed acceptable fuels specification. The proposed language is simply a more precise definition of the existing permit language of "garbage such as refuse and trash." Hillsborough County does not believe that it is requesting any additional waste streams at the Facility beyond the existing definition. Hillsborough County does not plan to implement any less restrictive acceptance criteria at the Facility nor is it requesting any greater flexibility in the allowable waste streams. Since there will be no change in the allowable fuels at the Facility, the concentration of the pollutants at the inlet to the APC system should not change as a result of this permitting process. Further, it should be understood that the proposed APC system is designed to accommodate a reasonably wide range in inlet pollutant concentrations and still meet permit limitations through adjustments to the lime and ammonia or urea feed rate based upon CEM feedback and frequency of cleaning (pulsing) the fabric filters.

CONTROL EQUIPMENT

8. *The detailed description of the air pollution control equipment was not submitted. Provide additional information, including engineering design specification sheets, for the proposed control technology. What are the manufacturer's guarantees of efficiency of the control equipment, etc? Please include for each baghouse, as a minimum, the following information:*

- *Design emission rate for particulate matter (before and after proposed controls).*

Response: Two boiler operating conditions were used as basis for the APC equipment design. The expected condition:

Flue Gas Flow	265,587 lb/hr flue gas
Economizer Outlet Temp.	450°F - 525°F
Economizer Outlet Flue Gas Flow Rate	104,829 ACFM - 113,469 ACFM

The Boiler Design Condition:

Flue Gas Flow	305,152 lb/hr flue gas

Economizer Outlet Temp.	450°F - 525°F
Economizer Outlet Flue Gas Flow Rate	120,743 ACFM - 130,694 ACFM

For the **expected operating condition** the particulate loading is as follows:

Inlet to SDA	1,132 lb/hr or 3.44 gr/dscf @7% O_2
Outlet of SDA	1,318 lb/hr or 4.00 gr/dscf @7% O_2
FF Outlet	4 lb/hr or 0.012 gr/dscf @7% O_2

For the **design operating condition** the particulate loading is as follows:

Inlet to SDA	1,477 lb/hr or 3.91 gr/dscf @7% O_2
Outlet of SDA	2,950 lb/hr or 7.81 gr/dscf @7% O_2
FF Outlet	5 lb/hr or 0.012 gr/dscf @7% O_2

- *Baghouse operation temperature (F) range?*

Response: Operating range is 270°F - 525°F with 525°F being the maximum continuous temperature.

- *Number of separate baghouses?*

Response: Each MWC will have one dedicated baghouse.

- *Number of isolated compartments per baghouse?*

Response: Each baghouse will have 6 modules.

- *Design criteria for air to cloth ratio or range of acceptable ratio?*

Response: The range in gross air/cloth (A/C) ratio is 2.3 - 2.7. This corresponds to an A/C net, net ratio range of 3.5 - 4.1, respectively.

- *Cloth description?*

Response: Woven fiberglass with an acid resistant finish with a fabric weight of either 16 or 22 ounces per square yard or other suitable materials.

- *Type of bag cleaning under consideration and subsequent cleaning controls?*

Response: The baghouse shall use pulse jet cleaning. The baghouse will be automatically cleaned to control to a pressure drop set point or on a periodic basis as determined by the operator. The operator may also manually initiate a cleaning cycle.

- *Strategy for detecting and replacing faulty bags?*

Response: Each MWC will be equipped with a continuous opacity monitor (COM) which will be monitored by the control room operator. During the baghouse cleaning cycle the COM will indicate any compartment that has a faulty bag by showing a small opacity spike. Compartments that indicate a faulty bag will be inspected and the bag replaced.

- *Description of ash handling and disposal system?*

Response: No changes to the ash handling system other than that the fly ash from the baghouse and residue from the spray dryer instead of from the ESP will be conveyed via screw conveyors to the boiler ash quench tank where it will mix with the quenched bottom ash. The mixed ash will then be dewatered as it exits the ash discharger onto the existing main ash conveyor and conveyed to the ash/residue handling building in the same manner as is presently employed.

- *Nature and terms of performance guarantee?*

The full-service vendor will provide a guarantee to meet all pollutants for which APC equipment is supplied throughout the term of the service agreement with the County. Under such a guarantee, any fine or other regulatory action is the responsibility of the vendor as well as any repairs needed to meet the permit conditions. The full-service vendor will receive warranties and guaranteed performance from the APC equipment vendor for specific emissions which do not include CO, Dioxin/Furans, NO_x, heavy metals, or ammonia.

If the above information cannot be submitted as requested, the proposed permit would be conditioned on submittal of detailed design specifications prior to commencement of construction.

9. *How are odors controlled at this facility? Describe any complaints (if any) on the existing facility and how improvements for odor control will be addressed?*

Response: Neither the County or the Facility have received any odor complaints over the ten-year operating history of the WTE plant. Odors are controlled by pulling combustion air from vents located above the refuse storage pit. The requested permit modification has no effect upon the operation of the tipping floor and ventilation system which control odors.

MONITORING EQUIPMENT AND MONITORING LOCATIONS

10. *Provide information concerning emission monitoring equipment and monitoring locations.*

Response: Section 3.4.6, page 3-6, Volume II of the County's application explains that continuous emission monitors (CEMs) for SO_2, NO_x, CO, and O_2 will be installed after the fabric filter (FF) outlet of each combustion unit. These will be installed in the vertical duct between the FF and induced draft fan. SO_2 and O_2 CEMs will be installed at the economizer outlet, prior to the Spray Dry Absorber inlet, to allow calculation of SO_2 removal efficiency. A continuous opacity monitor (COM) will be installed after the FF outlet on each unit.

Flue gas samples will be taken continuously at the economizer/boiler outlet for SO_2 and O_2 and after the FF outlet for SO_2, NO_x, CO, and O_2. The sample lines will be connected to a climate controlled CEM trailer. The CEM trailer will contain the sample preparation equipment and analyzers. Data collected from the CEM analyzers will be transmitted to the Facility's main control room and collected with data loggers.

At this time, a CEMS vendor(s) has not been selected and, therefore, the specific brand names of the analyzers and CEMS cannot be provided. The exact location within the ductwork where the CEMS will be located has not yet been designed. The County is willing to submit this information to the Department when it becomes available.

11. *Provide the make and model number along with the specification sheets and operation and maintenance manuals for all combustors, recorders, scrubbers, baghouses and CEMs for recording opacity, oxygen, carbon monoxide, NO_x, SO_2.*

Response: We question the Department's need for this information, all of which other than that for the combustors is not available at this time. Environmental Elements Corporation has been selected to supply the SDA and FF. The County is willing to submit this information to the Department when it becomes available.

AIR PERMIT APPLICATION FORM AND APPENDICES

12. *Appendix B: On page B-6, shouldn't the 29 moles SO_2 refer to HCL instead of SO_2? On page B-9, shouldn't the 205 moles of CO refer to NO_x instead?*

Response: You are correct. Corrected pages are attached as Exhibit 5.

13. *Appendix C: Flow rate discrepancies exist between the existing and future nominal flow rates used. Why is the difference in data? Show calculation of nominal data.*

Response: The Appendix C BURN runs show calculated flow rates for an existing single unit at the nominal load of 400 tpd at 4,500 Btu/lb as:

- 96,382.0 acfm, at an exit temperature of 473.7 degrees F, and moisture content of 10.24%
- 34,687.0 dry standard cfm, corrected to 7% O_2

The flow rates for the same unit firing the same waste at nominal load after the air pollution control retrofit is:

- 82,428.6 acfm, at an exit temperature of 288.7 degrees F, and moisture content of 14.93%
- 34,674.1 dry standard cfm, corrected to 7% O_2

The difference in the flow rates at actual stack conditions is primarily due to the addition of the scrubber as part of the air pollution control equipment retrofit. The scrubber cools the flue gases considerably (by 185 degrees). The cooler, more dense gases take up less volume, and therefore would be measured as having a lower flow rate.

When the flow rates are corrected to dry standard conditions and 7% O_2, they are virtually identical, as they should be. The very small difference (less than 0.04 percent) is due to rounding of calculations at differing points in the BURN program itself.

14. *Section III Part 7a-1. The maximum dry standard flow rate listed is 53189 dscfm. However, is not the same flow used in the BURN model output. Please update this page. Show calculations.*

The BURN model output in Appendix C shows a flow rate for a single retrofitted unit burning 345 tpd of waste at 6,000 Btu/lb (our worst case) to be: 39,490.0 dry standard cfm **corrected to 7% O_2**. It also shows a flow rate for the same case of 43,078.9 dry standard cfm **corrected to 12% CO_2**. The ELSA forms ask for flow expressed as dry standard cfm, but without correction to either 7% O_2 or 12% CO_2. Therefore, the value reported is the uncorrected dscfm. Although the uncorrected dscfm is not in the BURN output, it can be derived as follows:

1. Actual O_2 concentration in flue gases: 10.58% (by volume, dry) from BURN

2. O_2 concentration in ambient air: 20.9% (by volume, dry)

3. Convert flow rate in dscfm corrected to 7% O_2 to flow rate in dscfm at actual O_2 concentration:

$$39{,}490.0 \text{ dscfm} \underset{@\ 7\%\ O_2}{} \quad \frac{(20.9\% - 7\%\ O_2)}{(20.9\% - 10.58\%\ O_2)} \quad = \quad 53{,}189 \text{ dscfm} \underset{@\ \text{actual } O_2}{}$$

The value of 53,189 dscfm at actual stack conditions is what was reported on the forms.

15. *What is the rationale of using emission data from 1987? The information provided in Appendix E referred to tests conducted in 1987.*

Response: As explained in the response to Question No. 1, above, the only available test data for the Facility for SO_2, VOC, H_2SO_4, fluorides and beryllium is from the 1987 acceptance test, demonstrating compliance with the Facility's Power Plant Site Certification conditions. The permit conditions contained in the Facility's Site Certification and PSD permit do not require the Facility to test annually for pollutants other than PM. Consequently, the 1987 emissions data was used as representative of all emissions.

The following were questions/comments posed by HCEPC:

1. *In Volume II, page 2-17 HCSWD requested an expanded definition of municipal solid waste (MSW) authorized to be burned at the facility. The permit, when issued, should contain a strict definition of materials authorized for combustion. Some of the wastes proposed by the applicant constitute industrial waste and segregated wastes. We feel strongly that this definition must not be too broad.*

Response: See response to DEP question number 7. With regard to segregated wastes, EPA clearly recognizes single-item waste streams as being in the realm of Municipal Solid Waste. In Section IV part A. of the preamble to the E.G., EPA states that *"Municipal Solid Waste is defined as either a mixture or* ***single-item*** (emphasis added) *waste stream of household, commercial, and/or institutional discards. This would include materials such as paper, yard waste, plastics, leather, rubber glass, metals and other combustible and noncombustible materials"*. The preamble goes on to state *"The final MSW definition does not include used motor oil; sewage sludge; wood pallets; construction; renovation; and demolition wastes(including but not limited to railroad ties and telephone poles); clean wood; industrial process or manufacturing wastes; medical waste; or motor vehicles. Although these wastes are not MSW,* ***they can be intermixed with MSW and can be combusted in MSW plants. The regulations do not prohibit their combustion."*** (emphasis added).

2. *HCSWRF seems to meet the definition of "incinerator" used in 40 CFR 61 Subpart C, the Beryllium NESHAP. Therefore, this NESHAP would be applicable to them.*

Response: Hillsborough County agrees. Page 2-10 of Volume II of the County's application states that the County's Facility is subject to the NESHAP Subpart C and has proposed a

Beryllium emission limitation which is more restrictive than the emission limit under NESHAP Subpart C.

3. *The "Proposed Permit Emission Limit" column has the superscript "7" _____ of the pollutant emission limits. The note that goes along with the number "7" implies the emission limit compliance date is revised to the year 2002. The August 1997 Federal Register does revise the limit and compliance date, but only for lead, sulfur dioxide, and hydrogen chloride (and the limit for nitrogen oxides, but not the date). The compliance date of December 19, 2000 remains in effect for the other emission limits specified in Subpart Cb. Note: According to the construction schedule proposed showing acceptance testing in September - October 2000, HCSWRF should be able to comply with the dates.*

Response: Hillsborough County is proposing to meet all EG limitations as revised by the August 1997 Federal Register, as of the year 2000 (no later than December 19, 2000) including the limitation for NO_x which is slightly less restrictive than the original EG published in December, 1995.

4. *HCSWRF is also asking to use Method 22 for testing for the fugitive emissions from ash handling rather than Method 9. This really refers to uncontrolled emissions and Method 22 may not be appropriate.*

Response: EPA is very clear that Method 22 is appropriate to use to detect visible emissions from ash handling facilities. Appendix A to the Emission Guidelines contains frequently asked questions and their answers. Page A-12 clarifies that it is fugitive ash emissions that are being monitored.

5. *Finally, HCSWRF is also asking to reassure the amount of waste combusted based on steam flow versus actual tonnage, an issue that has been contentious in the past. We oppose this since there is not good correlation to heat input and fuel input.*

Response: We find this comment curious since EPC went on record in a memorandum dated July 25, 1994, from Mr. Jerry Campbell of HCEPC to Ms. Teresa Heron of FDEP indicating that with regard to a surrogate means of monitoring the amount of waste burned, HCEPC " was receptive to the request to use steam flow..." That same memorandum goes on to acknowledge that " EPA has proposed to use ....steam flows in their proposed NSPS."

EPA has in fact recognized using steam or feedwater flows as the most appropriate means by which to measure/monitor MWC load. 40 CFR Part 60.58b(i)6 states *"...to determine compliance with load level requirements under Section 60.53b(b). (i) The owner or operator of an affected facility with steam generation capability shall install, calibrate, maintain, and operate a steam flow meter or a feedwater flow meter; measure steam (or feedwater) flow in*

kilograms per hour on a continuous basis; and record the output of the monitor. Steam (or feedwater) flow shall be calculated in 4-hour block arithmetic averages"

Hillsborough County's request to use steamflow to monitor combustor load is consistent with the requirements of the EG.

6. *Provide complete design calculations for pollution control equipment. These should include component sizes, feed rates, flow rates, reaction rates, assumptions, and references to support parameters used.*

Response: See response to DEP question no. 8. Hillsborough County would be pleased to provide HCEPC a complete copy of Environmental Elements Corporation's (the APC vendor) proposal if necessary.

7. *In the letter from Al Linero to Mayor Greco, City of Tampa, regarding the McKay Bay Facility and dated October 14, 1997, Numbers 1, 5, and 7 are applicable to this project.*

Response: These have been addressed above. If you have any question or comment, do not hesitate to call me.

Sincerely,

CAMP DRESSER & McKEE INC.

Daniel E. Strobridge
Associate

Douglas W. Fredericks
Vice President

c: Teresa Heron, DEP
Jerry Campbell, HCEPC
Steve Palmer, DEP
Thomas Smith, HCSWMD
Don Elias, RTP
Martha Chumbler, Carlton Fields

SWD
File

EXHIBIT 1

HILLSBOROUGH COUNTY SOLID WASTE ENERGY RECOVERY FACILITY
STACK TEST DATA SUMMARY
Particulate Matter (in lb/hr)

		Year of Stack Test									
		1987	1988	1989	1990	1991	1992	1993	1994	1995	1996
Unit 1	Run 1	1.40	1.53	0.97	5.56	2.9	4.50	0.59	1.79	1.43	0.391
	Run 2	1.59	1.53	1.43	4.19	3.2	3.61	1.05	1.94	1.54	0.894
	Run 3	1.31	1.53	1.25	6.10	2.9	3.77	1.38	2.64	1.91	0.805
Unit 2	Run 1	2.25	1.70	1.72	3.02	2.4	1.44	2.35	1.21	1.25	0.834
	Run 2	1.54	3.05	1.54	2.83	1.9	1.25	2.43	1.55	1.73	0.727
	Run 3	1.52	1.24	1.68	4.61	1.9	0.872	1.97	1.61	1.57	0.81
Unit 3	Run 1	1.29	1.88	1.59	4.74	2.0	2.0	2.37	1.53	1.67	0.788
	Run 2	0.52	2.17	1.01	4.07	1.8	1.55	2.19	2.38	1.46	0.794
	Run 3	1.06	1.96	1.26	4.44	2.0	2.31	2.75	1.64	1.78	0.867
Test Series Averages:											
	Unit 1	1.43	1.53	1.22	5.28	3.0	3.96	1.01	2.12	1.63	0.70
	Unit 2	1.77	2.00	1.65	3.49	2.1	1.19	2.25	1.46	1.52	0.79
	Unit 3	0.96	2.00	1.29	4.42	1.9	1.96	2.44	1.85	1.64	0.82
Facility Total:		4.16	5.53	4.15	13.19	7.0	7.10	5.69	5.43	4.78	2.30

Annual Facility availability:		95.0%
Highest two years of Facility stack test data:	lb/hr	Estimated ton/year
	13.19	54.87
	7.10	29.56

Statistics	Individual Run Results			Test Series Averages		
		Equiv. Facility Total			Equiv. Facility Total	
	lb/hr/run	lb/hr	ton/year	lb/hr/serie	lb/hr	ton/year
Overall Average	1.98	5.93	24.69	1.98	5.93	24.69
Standard Deviation	1.12	—	—	1.08	—	—
Average + 2SD	4.22	12.66	52.66	4.14	12.42	51.68

HILLSBOROUGH COUNTY SOLID WASTE ENERGY RECOVERY FACILITY STACK TEST DATA SUMMARY SO_2 (in lb/hr)

		Year of Stack Test 1987
Unit 1	Run 1	75.4
	Run 2	45.6
	Run 3	43.7
Unit 2	Run 1	NA
	Run 2	NA
	Run 3	NA
Unit 3	Run 1	NA
	Run 2	NA
	Run 3	NA
Test Series Averages:		
	Unit 1	54.9
	Unit 2	NA
	Unit 3	NA
Facility Total:		164.7 (single unit times 3)

Annual Facility availability: 95.0%

Highest two years of Facility stack test data:

lb/hr	Estimated ton/year
164.7	685.3
NA	NA

Statistics	Individual Run Results lb/hr/run	Equiv. Facility Total lb/hr	ton/year
Overall Average	54.9	164.7	685.3
Standard Deviation	17.8	—	---
Average + 2SD	90.5	271.4	1129.2

HILLSBOROUGH COUNTY SOLID WASTE
ENERGY RECOVERY FACILITY
STACK TEST DATA SUMMARY
NOx (in lb/hr)

		Year of Stack Test 1987	1994
Unit 1	Run 1	93.8	NA
	Run 2	88.6	NA
	Run 3	80.7	NA
Unit 2	Run 1	81.5	97.5
	Run 2	89.8	100.6
	Run 3	85.5	93.2
Unit 3	Run 1	81.7	89.1
	Run 2	79.8	93.4
	Run 3	89.6	95.5
Test Series Averages:			
	Unit 1	87.7	NA
	Unit 2	85.6	97.1
	Unit 3	83.7	92.7
Facility Total:		169.3	284.7 (adjusted for 3 units)

Annual Facility availability: 95.0%

Highest two years of Facility stack test data:

lb/hr	Estimated ton/year
284.7	1184.4
169.3	704.5

Statistics	Individual Run Results lb/hr/run	Equiv. Facility Total lb/hr	ton/year	Test Series Averages lb/hr/serie	Equiv. Facility Total lb/hr	ton/year
Overall Average	89.4	268.1	1115.4	89.4	268.1	1115.4
Standard Deviation	6.5	---	---	5.5	---	---
Average + 2SD	102.3	306.8	1276.6	100.3	300.9	1252.0

HILLSBOROUGH COUNTY SOLID WASTE ENERGY RECOVERY FACILITY STACK TEST DATA SUMMARY

Lead (in lb/hr)

		Year of Stack Test 1987
Unit 1	Run 1	0.064
	Run 2	0.007
	Run 3	0.058
Unit 2	Run 1	NA
	Run 2	NA
	Run 3	NA
Unit 3	Run 1	NA
	Run 2	NA
	Run 3	NA
Test Series Averages:		
	Unit 1	0.043
	Unit 2	NA
	Unit 3	NA
Facility Total:		0.129 (single unit times 3)

Annual Facility availability:		95.0%
Highest two years of Facility stack test data:	lb/hr	Estimated ton/year
	0.129	0.54
	NA	NA

Statistics	Individual Run Results		
	lb/hr/run	Equiv. Facility Total lb/hr	ton/year
Overall Average	0.043	0.129	0.54
Standard Deviation	0.031	—	—
Average + 2SD	0.106	0.317	1.32

HILLSBOROUGH COUNTY SOLID WASTE
ENERGY RECOVERY FACILITY
STACK TEST DATA SUMMARY
Fluorides (in lb/hr)

		Year of Stack Test 1987
Unit 1	Run 1	0.496
	Run 2	0.533
	Run 3	0.752
Unit 2	Run 1	NA
	Run 2	NA
	Run 3	NA
Unit 3	Run 1	NA
	Run 2	NA
	Run 3	NA
Test Series Averages:		
	Unit 1	0.594
	Unit 2	NA
	Unit 3	NA
Facility Total:		1.781 (single unit times 3)

Annual Facility availability: 95.0%

Highest two years of Facility stack test data:	lb/hr	Estimated ton/year
	1.781	7.41
	NA	NA

Statistics	Individual Run Results lb/hr/run	Equiv. Facility Total lb/hr	Equiv. Facility Total ton/year
Overall Average	0.594	1.781	7.41
Standard Deviation	0.138	—	—
Average + 2SD	0.870	2.611	10.87

HILLSBOROUGH COUNTY SOLID WASTE ENERGY RECOVERY FACILITY STACK TEST DATA SUMMARY

Sulfuric Acid Mist (in lb/hr)

		Year of Stack Test 1987
Unit 1	Run 1	28.4
	Run 2	20.4
	Run 3	19.4
Unit 2	Run 1	NA
	Run 2	NA
	Run 3	NA
Unit 3	Run 1	NA
	Run 2	NA
	Run 3	NA
Test Series Averages:		
	Unit 1	22.73
	Unit 2	NA
	Unit 3	NA
Facility Total:		68.20 (single unit times 3)

Annual Facility availability: 95.0%

Highest two years of Facility stack test data:

lb/hr	Estimated ton/year
68.20	283.8
NA	NA

Statistics	Individual Run Results lb/hr/run	Equiv. Facility Total lb/hr	Equiv. Facility Total ton/year
Overall Average	22.73	68.20	283.78
Standard Deviation	4.93	---	---
Average + 2SD	32.60	97.80	406.93

HILLSBOROUGH COUNTY SOLID WASTE
ENERGY RECOVERY FACILITY
STACK TEST DATA SUMMARY
Mercury (in lb/hr)

		Year of Stack Test			
		1987	1994	1995	1996
Unit 1	Run 1	0.193	0.0244	0.0250	0.04424
	Run 2	0.070	0.0181	0.0223	0.02204
	Run 3	0.064	0.0193	0.0209	0.03295
Unit 2	Run 1	NA	0.0307	0.0127	0.03917
	Run 2	NA	0.0139	0.0405	0.03002
	Run 3	NA	0.0216	0.0252	0.03409
Unit 3	Run 1	NA	0.0158	0.0157	0.0459
	Run 2	NA	0.0428	0.0223	0.03976
	Run 3	NA	0.0190	0.0205	0.02297
Test Series Averages:					
	Unit 1	0.109	0.0206	0.0227	0.0331
	Unit 2	NA	0.0221	0.0261	0.0344
	Unit 3	NA	0.0259	0.0195	0.0362
Facility Total:					
		0.327	0.0685	0.0684	0.1037
		(single unit times 3)			

Annual Facility availability: 95.0%

Highest two years of Facility stack test data:	lb/hr	Estimated ton/year
	0.327	1.359
	0.104	0.432

Statistics	Individual Run Results			Test Series Averages		
		Equiv. Facility Total			Equiv. Facility Total	
	lb/hr/run	lb/hr	ton/year	lb/hr/serie	lb/hr	ton/year
Overall Average	0.035	0.105	0.436	0.035	0.105	0.436
Standard Deviation	0.033	---	---	0.027	---	---
Average + 2SD	0.101	0.302	1.257	0.088	0.265	1.101

HILLSBOROUGH COUNTY SOLID WASTE
ENERGY RECOVERY FACILITY
STACK TEST DATA SUMMARY
CO (in lb/hr)

		Year of Stack Test 1987
Unit 1	Run 1	2.36
	Run 2	2.84
	Run 3	2.06
Unit 2	Run 1	3.35
	Run 2	2.71
	Run 3	2.85
Unit 3	Run 1	1.66
	Run 2	1.65
	Run 3	1.69
Test Series Averages:		
	Unit 1	2.42
	Unit 2	2.97
	Unit 3	1.67
Facility Total:		7.06

Annual Facility availability: 95.0%

Highest two years of Facility stack test data:	lb/hr	Estimated ton/year
	7.06	29.4
	NA	NA

Statistics	Individual Run Results			Test Series Averages		
		Equiv. Facility Total			Equiv. Facility Total	
	lb/hr/run	lb/hr	ton/year	lb/hr/serie	lb/hr	ton/year
Overall Average	2.35	7.06	29.4	2.35	7.06	29.4
Standard Deviation	0.62	---	---	0.65	---	---
Average + 2SD	3.60	10.79	44.9	3.66	10.98	45.7

HILLSBOROUGH COUNTY SOLID WASTE
ENERGY RECOVERY FACILITY
STACK TEST DATA SUMMARY
VOC (in lb/hr)

		Year of Stack Test 1987
Unit 1	Run 1	21.4
	Run 2	16.6
	Run 3	18.1
Unit 2	Run 1	33.8
	Run 2	17.3
	Run 3	15.2
Unit 3	Run 1	5.7
	Run 2	28.9
	Run 3	45.8
Test Series Averages:		
	Unit 1	18.70
	Unit 2	22.10
	Unit 3	26.80
Facility Total:		67.60

Based on April, 1987 0.06 gr/dscf vs 0.01 gr/dscf

Test in June, 1987 → 0.0017

Annual Facility availability:		95.0%
Highest two years of Facility stack test data:	lb/hr	Estimated ton/year
	67.60	281.3
	NA	NA

Statistics	Individual Run Results			Test Series Averages		
		Equiv. Facility Total			Equiv. Facility Total	
	lb/hr/run	lb/hr	ton/year	lb/hr/serie	lb/hr	ton/year
Overall Average	22.53	67.60	281.3	22.53	67.60	281.3
Standard Deviation	11.88	---	---	4.07	---	---
Average + 2SD	46.30	138.89	577.9	30.67	92.00	382.8

HILLSBOROUGH COUNTY SOLID WASTE
ENERGY RECOVERY FACILITY
STACK TEST DATA SUMMARY
Beryllium (in lb/hr)

		Year of Stack Test 1987
Unit 1	Run 1	< 1.65E-05
	Run 2	< 1.65E-05
	Run 3	< 1.65E-05
Unit 2	Run 1	NA
	Run 2	NA
	Run 3	NA
Unit 3	Run 1	NA
	Run 2	NA
	Run 3	NA
Test Series Averages:		
	Unit 1	< 1.65E-05
	Unit 2	NA
	Unit 3	NA
Facility Total:		< 4.95E-05 (single unit times 3)

Annual Facility availability:		95.0%
Highest two years of Facility stack test data:	lb/hr	Estimated ton/year
	4.95E-05	2.06E-04
	NA	NA

Statistics	Individual Run Results lb/hr/run	Equiv. Facility Total lb/hr	ton/year
Overall Average	1.65E-05	< 4.95E-05	2.06E-04
Standard Deviation	0.00E+00	---	---
Average + 2SD	1.65E-05	< 4.95E-05	2.06E-04

HILLSBOROUGH COUNTY SOLID WASTE
ENERGY RECOVERY FACILITY
STACK TEST DATA SUMMARY
Total Dioxins and Furans (PCDD/PCDF) (in lb/hr)

		Year of Stack Test 1994
Unit 1	Run 1	2.83E-05
	Run 2	2.21E-05
	Run 3	2.16E-05
Unit 2	Run 1	NA
	Run 2	NA
	Run 3	NA
Unit 3	Run 1	NA
	Run 2	NA
	Run 3	NA
Test Series Averages:		
	Unit 1	2.40E-05
	Unit 2	NA
	Unit 3	NA
Facility Total:		7.20E-05 (single unit times 3)

Annual Facility availability: 95.0%

Highest two years of Facility stack test data:	lb/hr	Estimated ton/year
	7.20E-05	3.00E-04
	NA	NA

Statistics	Individual Run Results lb/hr/run	Equiv. Facility Total lb/hr	Equiv. Facility Total ton/year
Overall Average	2.40E-05	7.20E-05	3.00E-04
Standard Deviation	3.75E-06	---	---
Average + 2SD	3.15E-05	9.45E-05	3.93E-04

HILLSBOROUGH COUNTY SOLID WASTE ENERGY RECOVERY FACILITY
STACK TEST DATA SUMMARY
Facility Totals for All Pollutants (tons/year)

	Highest 2 Years		Statistics		
				Average + 2 Std. Dev.	
	1st High	2nd High	Overall Average	Individual Runs	Test Series Averages
PM	54.9	29.6	24.7	52.7	51.7
SO_2	685.3	NA	685.3	1129.2	NA
NOx	1184.4	704.5	1115.4	1276.6	1252.0
Lead	0.54	NA	0.54	1.32	NA
Fluorides	7.41	NA	7.41	10.9	NA
Sulfuric Acid Mist	283.8	NA	283.8	406.9	NA
Mercury	1.36	0.43	0.44	1.26	1.10
CO	29.4	NA	29.4	44.9	45.7
VOC	281.3	NA	281.3	577.9	382.8
Beryllium	2.06E-04	NA	2.06E-04	2.06E-04	NA
PCDD/PCDF	3.00E-04	NA	3.00E-04	3.93E-04	NA

Note: Test data was collected as lb/hr. Ton/yr is based on 95% availability, or about 8322 hours of operation per year.

EXHIBIT 2

Table 1

Calculated Future Potential Sulfur Dioxide Emission Rates

Hillsborough County Solid Waste Energy Recovery Facility

	Cases (Percent of Nominal Load / Waste Heat Content in Btu/lb)									
	Case #3	Case #7	Nominal	Case #10	Case #2	Case #5	Case #9	Case #1	Case #4	Case #8
	115%	115%	100%	97%	80%	80%	80%	60%	60%	60%
	6,000 Btu/lb	4,500 Btu/lb	4,500 Btu/lb	3,800 Btu/lb	6,000 Btu/lb	4,500 Btu/lb	3,800 Btu/lb	6,000 Btu/lb	4,500 Btu/lb	3,800 Btu/lb
Parameters										
Stack Gas Flow (dscfm @ 7% O2) per unit	39490.0	39875.3	34674.1	33351.4	27469.6	27739.3	27469.6	20599.0	20804.5	20605.4
Normalized Emission Rate (g/s)	1.14	1.15	1.00	0.96	0.79	0.80	0.79	0.59	0.60	0.59
Heat Release (3 units) (MMBtu/hr)	517.5	517.5	450.0	437.0	360.0	360.0	360.0	270.0	270.0	270.0
Waste Throughput (3 units) (tpd)	1035.0	1380.0	1200	1380.0	720.0	960.0	1136.8	540.0	720.0	852.6
SO2 Emission Rates (3 units)										
g/s	12.30	12.42	10.80	10.38	8.55	8.64	8.55	6.41	6.48	6.42
lb/MMBtu	0.189	0.190	0.190	0.189	0.189	0.190	0.189	0.189	0.190	0.189
lb/hr	97.6	98.6	85.7	82.4	67.9	68.6	67.9	50.9	51.4	50.9
ton/yr	427.5	431.7	375.4	361.1	297.4	300.3	297.4	223.0	225.2	223.1

Table 2

Calculated Future Potential Nitrogen Oxide Emission Rates

Hillsborough County Solid Waste Energy Recovery Facility

	Cases (Percent of Nominal Load / Waste Heat Content in Btu/lb)									
	Case #3	Case #7	Nominal	Case #10	Case #2	Case #5	Case #9	Case #1	Case #4	Case #8
	115%	115%	100%	97%	80%	80%	80%	60%	60%	60%
	6,000 Btu/lb	4,500 Btu/lb	4,500 Btu/lb	3,800 Btu/lb	6,000 Btu/lb	4,500 Btu/lb	3,800 Btu/lb	6,000 Btu/lb	4,500 Btu/lb	3,800 Btu/lb
Parameters										
Stack Gas Flow (dscfm @ 7% O2) per unit	39490.0	39875.3	34674.1	33351.4	27469.6	27739.3	27469.6	20599.0	20804.5	20605.4
Normalized Emission Rate (g/s)	1.14	1.15	1.00	0.96	0.79	0.80	0.79	0.59	0.60	0.59
Heat Release (3 units) (MMBtu/hr)	517.5	517.5	450.0	437.0	360.0	360.0	360.0	270.0	270.0	270.0
Waste Throughput (3 units) (tpd)	1035.0	1380.0	1200	1380.0	720.0	960.0	1136.8	540.0	720.0	852.6
NOx Emission Rates (3 units)										
g/s	21.94	22.15	19.26	18.53	15.26	15.41	15.26	11.44	11.56	11.45
lb/MMBtu	0.337	0.340	0.340	0.337	0.337	0.340	0.337	0.336	0.340	0.337
lb/hr	174.2	175.9	152.9	147.1	121.1	122.3	121.1	90.8	91.7	90.9
ton/yr	762.8	770.2	669.8	644.2	530.6	535.8	530.6	397.9	401.9	398.0

Table 3

Calculated Future Potential Carbon Monoxide Emission Rates

Hillsborough County Solid Waste Energy Recovery Facility

	Cases (Percent of Nominal Load / Waste Heat Content in Btu/lb)									
	Case #3	Case #7	Nominal	Case #10	Case #2	Case #5	Case #9	Case #1	Case #4	Case #8
	115%	115%	100%	97%	80%	80%	80%	60%	60%	60%
	6,000 Btu/lb	4,500 Btu/lb	4,500 Btu/lb	3,800 Btu/lb	6,000 Btu/lb	4,500 Btu/lb	3,800 Btu/lb	6,000 Btu/lb	4,500 Btu/lb	3,800 Btu/lb
Parameters										
Stack Gas Flow (dscfm @ 7% O2) per unit	39490.0	39875.3	34674.1	33351.4	27469.6	27739.3	27469.6	20599.0	20804.5	20605.4
Normalized Emission Rate (g/s)	1.14	1.15	1.00	0.96	0.79	0.80	0.79	0.59	0.60	0.59
Heat Release (3 units) (MMBtu/hr)	517.5	517.5	450.0	437.0	360.0	360.0	360.0	270.0	270.0	270.0
Waste Throughput (3 units) (tpd)	1035.0	1380.0	1200	1380.0	720.0	960.0	1136.8	540.0	720.0	852.6
CO Emission Rates (3 units)										
g/s	6.52	6.58	5.72	5.50	4.53	4.58	4.53	3.40	3.43	3.40
lb/MMBtu	0.100	0.101	0.101	0.100	0.100	0.101	0.100	0.100	0.101	0.100
lb/hr	51.7	52.2	45.4	43.7	36.0	36.3	36.0	27.0	27.2	27.0
ton/yr	226.6	228.8	198.9	191.3	157.6	159.1	157.6	118.2	119.4	118.2

Table 4

Calculated Future Potential Particulate Matter Less Than 10 Microns Emission Rates

Hillsborough County Solid Waste Energy Recovery Facility

	Cases (Percent of Nominal Load / Waste Heat Content in Btu/lb)									
	Case #3	Case #7	Nominal	Case #10	Case #2	Case #5	Case #9	Case #1	Case #4	Case #8
	115%	115%	100%	97%	80%	80%	80%	60%	60%	60%
	6,000 Btu/lb	4,500 Btu/lb	4,500 Btu/lb	3,800 Btu/lb	6,000 Btu/lb	4,500 Btu/lb	3,800 Btu/lb	6,000 Btu/lb	4,500 Btu/lb	3,800 Btu/lb
Parameters										
Stack Gas Flow (dscfm @ 7% O2) per unit	39490.0	39875.3	34674.1	33351.4	27469.6	27739.3	27469.6	20599.0	20804.5	20605.4
Normalized Emission Rate (g/s)	1.14	1.15	1.00	0.96	0.79	0.80	0.79	0.59	0.60	0.59
Heat Release (3 units) (MMBtu/hr)	517.5	517.5	450.0	437.0	360.0	360.0	360.0	270.0	270.0	270.0
Waste Throughput (3 units) (tpd)	1035.0	1380.0	1200	1380.0	720.0	960.0	1136.8	540.0	720.0	852.6
PM10 Emission Rates (3 units)										
g/s	1.54	1.55	1.35	1.30	1.07	1.08	1.07	0.80	0.81	0.80
lb/MMBtu	0.024	0.024	0.024	0.024	0.024	0.024	0.024	0.024	0.024	0.024
lb/hr	12.2	12.3	10.7	10.3	8.5	8.6	8.5	6.4	6.4	6.4
ton/yr	53.4	53.9	46.9	45.1	37.1	37.5	37.1	27.9	28.1	27.9

Table 5

Calculated Future Potential Dioxin/Furan Emission Rates

Hillsborough County Solid Waste Energy Recovery Facility

	Cases (Percent of Nominal Load / Waste Heat Content in Btu/lb)									
	Case #3	Case #7	Nominal	Case #10	Case #2	Case #5	Case #9	Case #1	Case #4	Case #8
	115%	115%	100%	97%	80%	80%	80%	60%	60%	60%
	6,000 Btu/lb	4,500 Btu/lb	4,500 Btu/lb	3,800 Btu/lb	6,000 Btu/lb	4,500 Btu/lb	3,800 Btu/lb	6,000 Btu/lb	4,500 Btu/lb	3,800 Btu/lb
Parameters										
Stack Gas Flow (dscfm @ 7% O2) per unit	39490.0	39875.3	34674.1	33351.4	27469.6	27739.3	27469.6	20599.0	20804.5	20605.4
Normalized Emission Rate (g/s)	1.14	1.15	1.00	0.96	0.79	0.80	0.79	0.59	0.60	0.59
Heat Release (3 units) (MMBtu/hr)	517.5	517.5	450.0	437.0	360.0	360.0	360.0	270.0	270.0	270.0
Waste Throughput (3 units) (tpd)	1035.0	1380.0	1200	1380.0	720.0	960.0	1136.8	540.0	720.0	852.6
PCDD/PCDF Emission Rates (3 units)										
g/s	1.68E-06	1.69E-06	1.47E-06	1.42E-06	1.17E-06	1.18E-06	1.17E-06	8.75E-07	8.84E-07	8.75E-07
lb/MMBtu	2.57E-08	2.60E-08	2.60E-08	2.57E-08	2.57E-08	2.60E-08	2.57E-08	2.57E-08	2.60E-08	2.57E-08
lb/hr	1.33E-05	1.34E-05	1.17E-05	1.12E-05	9.26E-06	9.35E-06	9.26E-06	6.95E-06	7.02E-06	6.95E-06
ton/yr	5.83E-05	5.89E-05	5.12E-05	4.93E-05	4.06E-05	4.10E-05	4.06E-05	3.04E-05	3.07E-05	3.04E-05

Table 6

Calculated Future Potential Mercury Emission Rates

Hillsborough County Solid Waste Energy Recovery Facility

	Cases (Percent of Nominal Load / Waste Heat Content in Btu/lb)									
	Case #3	Case #7	Nominal	Case #10	Case #2	Case #5	Case #9	Case #1	Case #4	Case #8
	115%	115%	100%	97%	80%	80%	80%	60%	60%	60%
	6,000 Btu/lb	4,500 Btu/lb	4,500 Btu/lb	3,800 Btu/lb	6,000 Btu/lb	4,500 Btu/lb	3,800 Btu/lb	6,000 Btu/lb	4,500 Btu/lb	3,800 Btu/lb
Parameters										
Stack Gas Flow (dscfm @ 7% O2) per unit	39490.0	39875.3	34674.1	33351.4	27469.6	27739.3	27469.6	20599.0	20804.5	20605.4
Normalized Emission Rate (g/s)	1.14	1.15	1.00	0.96	0.79	0.80	0.79	0.59	0.60	0.59
Heat Release (3 units) (MMBtu/hr)	517.5	517.5	450.0	437.0	360.0	360.0	360.0	270.0	270.0	270.0
Waste Throughput (3 units) (tpd)	1035.0	1380.0	1200	1380.0	720.0	960.0	1136.8	540.0	720.0	852.6
Hg Emission Rates (3 units)										
g/s	7.55E-03	7.62E-03	6.63E-03	6.38E-03	5.25E-03	5.30E-03	5.25E-03	3.94E-03	3.98E-03	3.94E-03
lb/MMBtu	1.16E-04	1.17E-04	1.17E-04	1.16E-04	1.16E-04	1.17E-04	1.16E-04	1.16E-04	1.17E-04	1.16E-04
lb/hr	5.99E-02	6.05E-02	5.26E-02	5.06E-02	4.17E-02	4.21E-02	4.17E-02	3.13E-02	3.16E-02	3.13E-02
ton/yr	2.63E-01	2.65E-01	2.30E-01	2.22E-01	1.83E-01	1.84E-01	1.83E-01	1.37E-01	1.38E-01	1.37E-01

Table 7

Calculated Future Potential Cadmium Emission Rates

Hillsborough County Solid Waste Energy Recovery Facility

	Cases (Percent of Nominal Load / Waste Heat Content in Btu/lb)									
	Case #3	Case #7	Nominal	Case #10	Case #2	Case #5	Case #9	Case #1	Case #4	Case #8
	115%	115%	100%	97%	80%	80%	80%	60%	60%	60%
	6,000 Btu/lb	4,500 Btu/lb	4,500 Btu/lb	3,800 Btu/lb	6,000 Btu/lb	4,500 Btu/lb	3,800 Btu/lb	6,000 Btu/lb	4,500 Btu/lb	3,800 Btu/lb
Parameters										
Stack Gas Flow (dscfm @ 7% O2) per unit	39490.0	39875.3	34674.1	33351.4	27469.6	27739.3	27469.6	20599.0	20804.5	20605.4
Normalized Emission Rate (g/s)	1.14	1.15	1.00	0.96	0.79	0.80	0.79	0.59	0.60	0.59
Heat Release (3 units) (MMBtu/hr)	517.5	517.5	450.0	437.0	360.0	360.0	360.0	270.0	270.0	270.0
Waste Throughput (3 units) (tpd)	1035.0	1380.0	1200	1380.0	720.0	960.0	1136.8	540.0	720.0	852.6
Cd Emission Rates (3 units)										
g/s	0.0022	0.0023	0.0020	0.0019	0.0016	0.0016	0.0016	0.0012	0.0012	0.0012
lb/MMBtu	3.43E-05	3.47E-05	3.47E-05	3.43E-05	3.43E-05	3.47E-05	3.43E-05	3.43E-05	3.47E-05	3.43E-05
lb/hr	0.018	0.018	0.016	0.015	0.012	0.012	0.012	0.009	0.009	0.009
ton/yr	0.078	0.079	0.068	0.066	0.054	0.055	0.054	0.041	0.041	0.041

Table 8

Calculated Future Potential Lead Emission Rates

Hillsborough County Solid Waste Energy Recovery Facility

	Cases (Percent of Nominal Load / Waste Heat Content in Btu/lb)									
	Case #3	Case #7	Nominal	Case #10	Case #2	Case #5	Case #9	Case #1	Case #4	Case #8
	115%	115%	100%	97%	80%	80%	80%	60%	60%	60%
	6,000 Btu/lb	4,500 Btu/lb	4,500 Btu/lb	3,800 Btu/lb	6,000 Btu/lb	4,500 Btu/lb	3,800 Btu/lb	6,000 Btu/lb	4,500 Btu/lb	3,800 Btu/lb
Parameters										
Stack Gas Flow (dscfm @ 7% O2) per unit	39490.0	39875.3	34674.1	33351.4	27469.6	27739.3	27469.6	20599.0	20804.5	20605.4
Normalized Emission Rate (g/s)	1.14	1.15	1.00	0.96	0.79	0.80	0.79	0.59	0.60	0.59
Heat Release (3 units) (MMBtu/hr)	517.5	517.5	450.0	437.0	360.0	360.0	360.0	270.0	270.0	270.0
Waste Throughput (3 units) (tpd)	1035.0	1380.0	1200	1380.0	720.0	960.0	1136.8	540.0	720.0	852.6
Pb Emission Rates (3 units)										
g/s	0.0246	0.0248	0.0216	0.0208	0.0171	0.0173	0.0171	0.0128	0.0130	0.0128
lb/MMBtu	3.77E-04	3.81E-04	3.81E-04	3.77E-04	3.77E-04	3.81E-04	3.77E-04	3.77E-04	3.81E-04	3.77E-04
lb/hr	0.195	0.197	0.171	0.165	0.136	0.137	0.136	0.102	0.103	0.102
ton/yr	0.855	0.864	0.751	0.722	0.595	0.601	0.595	0.446	0.451	0.446

Table 9

Calculated Future Potential Hydrogen Chloride Emission Rates

Hillsborough County Solid Waste Energy Recovery Facility

	Cases (Percent of Nominal Load / Waste Heat Content in Btu/lb)									
	Case #3	Case #7	Nominal	Case #10	Case #2	Case #5	Case #9	Case #1	Case #4	Case #8
	115%	115%	100%	97%	80%	80%	80%	60%	60%	60%
	6,000 Btu/lb	4,500 Btu/lb	4,500 Btu/lb	3,800 Btu/lb	6,000 Btu/lb	4,500 Btu/lb	3,800 Btu/lb	6,000 Btu/lb	4,500 Btu/lb	3,800 Btu/lb
Parameters										
Stack Gas Flow (dscfm @ 7% O2) per unit	39490.0	39875.3	34674.1	33351.4	27469.6	27739.3	27469.6	20599.0	20804.5	20605.4
Normalized Emission Rate (g/s)	1.14	1.15	1.00	0.96	0.79	0.80	0.79	0.59	0.60	0.59
Heat Release (3 units) (MMBtu/hr)	517.5	517.5	450.0	437.0	360.0	360.0	360.0	270.0	270.0	270.0
Waste Throughput (3 units) (tpd)	1035.0	1380.0	1200	1380.0	720.0	960.0	1136.8	540.0	720.0	852.6
HCl Emission Rates (3 units)										
g/s	6.36	6.42	5.59	5.37	4.42	4.47	4.42	3.32	3.35	3.32
lb/MMBtu	0.098	0.099	0.099	0.098	0.098	0.099	0.098	0.098	0.099	0.098
lb/hr	50.5	51.0	44.3	42.6	35.1	35.5	35.1	26.3	26.6	26.3
ton/yr	221.2	223.3	194.2	186.8	153.8	155.4	153.8	115.4	116.5	115.4

Table 10

Calculated Future Potential Hydrogen Fluoride Emission Rates

Hillsborough County Solid Waste Energy Recovery Facility

	Cases (Percent of Nominal Load / Waste Heat Content in Btu/lb)									
	Case #3	Case #7	Nominal	Case #10	Case #2	Case #5	Case #9	Case #1	Case #4	Case #8
	115%	115%	100%	97%	80%	80%	80%	60%	60%	60%
	6,000 Btu/lb	4,500 Btu/lb	4,500 Btu/lb	3,800 Btu/lb	6,000 Btu/lb	4,500 Btu/lb	3,800 Btu/lb	6,000 Btu/lb	4,500 Btu/lb	3,800 Btu/lb
Parameters										
Stack Gas Flow (dscfm @ 7% O2) per unit	39490.0	39875.3	34674.1	33351.4	27469.6	27739.3	27469.6	20599.0	20804.5	20605.4
Normalized Emission Rate (g/s)	1.14	1.15	1.00	0.96	0.79	0.80	0.79	0.59	0.60	0.59
Heat Release (3 units) (MMBtu/hr)	517.5	517.5	450.0	437.0	360.0	360.0	360.0	270.0	270.0	270.0
Waste Throughput (3 units) (tpd)	1035.0	1380.0	1200	1380.0	720.0	960.0	1136.8	540.0	720.0	852.6
HF Emission Rates (3 units)										
g/s	0.38	0.38	0.33	0.32	0.26	0.27	0.26	0.20	0.20	0.20
lb/MMBtu	0.0058	0.0059	0.0059	0.0058	0.0058	0.0059	0.0058	0.0058	0.0059	0.0058
lb/hr	3.0	3.0	2.6	2.5	2.1	2.1	2.1	1.6	1.6	1.6
ton/yr	13.1	13.3	11.5	11.1	9.1	9.2	9.1	6.9	6.9	6.9

Table 11

Calculated Future Potential Beryllium Emission Rates

Hillsborough County Solid Waste Energy Recovery Facility

	Cases (Percent of Nominal Load / Waste Heat Content in Btu/lb)									
	Case #3	Case #7	Nominal	Case #10	Case #2	Case #5	Case #9	Case #1	Case #4	Case #8
	115%	115%	100%	97%	80%	80%	80%	60%	60%	60%
	6,000 Btu/lb	4,500 Btu/lb	4,500 Btu/lb	3,800 Btu/lb	6,000 Btu/lb	4,500 Btu/lb	3,800 Btu/lb	6,000 Btu/lb	4,500 Btu/lb	3,800 Btu/lb
Parameters										
Stack Gas Flow (dscfm @ 7% O2) per unit	39490.0	39875.3	34674.1	33351.4	27469.6	27739.3	27469.6	20599.0	20804.5	20605.4
Normalized Emission Rate (g/s)	1.14	1.15	1.00	0.96	0.79	0.80	0.79	0.59	0.60	0.59
Heat Release (3 units) (MMBtu/hr)	517.5	517.5	450.0	437.0	360.0	360.0	360.0	270.0	270.0	270.0
Waste Throughput (3 units) (tpd)	1035.0	1380.0	1200	1380.0	720.0	960.0	1136.8	540.0	720.0	852.6
Be Emission Rates (3 units)										
g/s	8.19E-05	8.27E-05	7.19E-05	6.92E-05	5.70E-05	5.75E-05	5.70E-05	4.27E-05	4.31E-05	4.27E-05
lb/MMBtu	1.26E-06	1.27E-06	1.27E-06	1.26E-06	1.26E-06	1.27E-06	1.26E-06	1.26E-06	1.27E-06	1.26E-06
lb/hr	6.50E-04	6.56E-04	5.71E-04	5.49E-04	4.52E-04	4.57E-04	4.52E-04	3.39E-04	3.43E-04	3.39E-04
ton/yr	2.85E-03	2.88E-03	2.50E-03	2.40E-03	1.98E-03	2.00E-03	1.98E-03	1.49E-03	1.50E-03	1.49E-03

Table 12

Calculated Future Potential Ammonia Emission Rates

Hillsborough County Solid Waste Energy Recovery Facility

	Cases (Percent of Nominal Load / Waste Heat Content in Btu/lb)									
	Case #3	Case #7	Nominal	Case #10	Case #2	Case #5	Case #9	Case #1	Case #4	Case #8
	115%	115%	100%	97%	80%	80%	80%	60%	60%	60%
	6,000 Btu/lb	4,500 Btu/lb	4,500 Btu/lb	3,800 Btu/lb	6,000 Btu/lb	4,500 Btu/lb	3,800 Btu/lb	6,000 Btu/lb	4,500 Btu/lb	3,800 Btu/lb
Parameters										
Stack Gas Flow (dscfm @ 7% O2) per unit	39490.0	39875.3	34674.1	33351.4	27469.6	27739.3	27469.6	20599.0	20804.5	20605.4
Normalized Emission Rate (g/s)	1.14	1.15	1.00	0.96	0.79	0.80	0.79	0.59	0.60	0.59
Heat Release (3 units) (MMBtu/hr)	517.5	517.5	450.0	437.0	360.0	360.0	360.0	270.0	270.0	270.0
Waste Throughput (3 units) (tpd)	1035.0	1380.0	1200	1380.0	720.0	960.0	1136.8	540.0	720.0	852.6
NH3 Emission Rates (3 units)										
g/s	1.98	2.00	1.74	1.67	1.38	1.39	1.38	1.03	1.04	1.03
lb/MMBtu	0.030	0.031	0.031	0.030	0.030	0.031	0.030	0.030	0.031	0.030
lb/hr	15.7	15.9	13.8	13.3	10.9	11.1	10.9	8.2	8.3	8.2
ton/yr	68.9	69.6	60.5	58.2	48.0	48.4	48.0	36.0	36.3	36.0

EXHIBIT 3

1997

'Home Safe Home'

HILLSBOROUGH COUNTY
HOUSEHOLD CHEMICAL COLLECTIONS

OPEN 9 A.M. TO 3 P.M. AT THESE LOCATIONS
ONLY ON THE DATES LISTED:

Town 'n Country Collection Site

9805 Sheldon Road (North Road Maintenance Unit)
Town 'n Country

Saturday, February 15
Saturday, April 12
Saturday, June 14
Saturday, August 16
Saturday, October 18
Saturday, December 13

Apollo Beach Collection Site

626 Golf & Sea Blvd. (beside the Fire Station)

Saturday, January 11
Saturday, March 15
Saturday, May 17
Saturday, July 12
Saturday, September 13
Saturday, November 15

Materials accepted include, but are not limited to:
Paints & Solvents, automotive products, household cleaners, pool chemicals, household batteries, lawn & garden supplies and other potentially toxic substances commonly found around the home & garden.

Materials <u>not</u> accepted include, but are not limited to:
Explosives, flares, radioactive material and bio-medical material.

ABSOLUTELY NO COMMERCIAL WASTE ACCEPTED
AND HOUSEHOLD MATERIAL MAY BE LIMITED

HILLSBOROUGH COUNTY SOLID WASTE MANAGEMENT DEPARTMENT
(813) 272-5680

HILLSBOROUGH COUNTY

Florida

Office of the County Administrator
Daniel A. Kleman

N O T I C E

Computers and computer equipment have been declared hazardous waste and it is not permissible for businesses to dispose of this type of waste with their municipal solid waste.

At present, homeowners are exempt from this restriction.

Computers can be recycled and there are several recyclers in the county who will buy, charge a collection fee or take the computers at no cost.

The names and phone numbers of some computer/computer equipment recyclers are listed below:

BAYTRONICS	237-0863
CREATIVE RECYCLING SYSTEMS	621-2319
F & M BAY ELECTRONICS CO.	621-8870
GLOBAL INVESTMENT COMPANY	620-1507

The names of these companies were obtained from the GTE yellow pages. Should you have any questions or require additional information, contact the Florida Department of Environmental Protection at 1-904-488-0300.

Solid Waste Management Department

Post Office Box 1110 - Tampa, Florida 33601

Hillsborough County
Florida

Battery Ban

for

Rechargeable Nickel-Cadmium (Nicad)

& Small Sealed Lead Acid (SSLA) Batteries

Effective March 7, 1997 rechargeable NICAD and SSLA batteries are banned from the waste stream!! The cadmium and lead contained in these batteries are toxic heavy metals. Everyone must take care to either recycle or properly dispose of these batteries when they are no longer usable.

Rechargeable batteries are most often found in:

- Cellular phones
- Portable electronics
- Laptop computers
- Video games
- Camcorders
- Drills
- Video recorders
- Portable power tools
- Portable medical equipment
- Toys
- Pagers
- Radios
- Flashlights

BOTH NICADS AND SSLAS COME IN A VARIETY OF SHAPES AND SIZES.

Look for the words "Cd.", "Ni-Cd" or "Nickel Cadmium" to identify NICADs.

Look for the words "Pb" or "Lead Acid" to identify SSLAs.

Both types of batteries usually have the word "*rechargeable*" and a recycling symbol somewhere on the battery.

TO RECYCLE RECHARGEABLE BATTERIES

Call 1-800- BATTERY (for NICADs) and 1-800-365-7777 (for SSLAs)

or

Bring batteries to Hillsborough County's monthly Household Chemical Collections
Call 272-5680 for scheduled dates and times

Some RADIO SHACK, CIRCUIT CITY & WAL-MART stores also accept these batteries for recycling

Hillsborough County
Solid Waste Management Department

Hillsborough County Provides Two Recycling Bins to Make Separation Easy and Efficient...

GREEN BIN - Some Glass, Plastic & Aluminum Products

- **Plastic Bottles and Jugs — Resin Types 1 & 2**
  If the item has a neck or a screw-on cap, it is probably a No. 1 or 2. Look for the symbol on the bottom of the item. Examples of acceptable plastic items include bottles for soda, water, juice, detergent, bleach and fabric softeners and plastic jugs for kitty litter.
  No plastic bags.
- **Glass Bottles and Jars** - all colors
- **Steel (Tin) and Aluminum Cans**
  Remove and discard lids, rinse all containers and crush plastic bottles and aluminum cans for easier storage.
  No pie tins or foil wrap.

BLUE BIN - Paper Products

- **Newspaper and Newspaper Inserts**
  May be in a brown paper bag or placed directly in the bin.
  Remove plastic bags.
- **Magazines, Catalogs & Telephone Books**
- **Corrugated Cardboard Shipping Boxes**
  Flatten and cut into sections of 3' x 3' or less. Place next to or in the bin.
  No glossy or waxed cardboard, cereal or shoe boxes, soda, water or beer pack holders or pizza boxes. We are unable to accept these items.
- **Brown Paper Bags**
- **Mixed Office Paper**
  Includes computer and fax paper.
- **Junk Mail**
  Remove any plastic wrapping or non-paper items before placing in the bin.

Place bins at the curb by 6:00 A.M. on collection day!

NOTE: Household Batteries Will No Longer be Accepted in Recycling Bins.

Most household batteries (aka: Dry Cell) can now be disposed of with your normal household garbage. **Rechargeable NICAD and SSLA batteries are banned from the waste stream and CANNOT be disposed of with your normal household garbage.**

Hillsborough County's recycling program.

It's easy!

See additional, detailed information about yard waste recycling in the County's *Yard Waste to Garden Treasure* brochure.

How to Place Yard Waste at Curbside for Pick-Up

Yard waste set out for collection cannot exceed two cubic yards each week, which equals approximately twelve 30-gallon containers. Yard waste other than grass clippings and leaves can also be boxed, bundled or neatly stacked in uniform lengths not to exceed 50 lbs. Also, be sure it is not more than four feet in length and six inches in diameter.

Did You Know That Yard Waste Can Also be Recycled?

There are four ways that yard waste can be reused, recycled or reduced:

1. Proper plant selection
2. Use it for mulch.
3. Don't bag clippings.
4. Compost.

EXHIBIT 4

Hillsborough County Solid Waste Management Department
COUNTYWIDE SOLID WASTE PROFILE FORM

SWMD 09909

PLEASE RETURN FORM TO:

Hillsborough County Solid Waste Management Department
P.O. BOX 1110
TAMPA, FL 33601-1110
ATTN: Management and Environmental Services Section

COUNTY USE ONLY

Approved_____ Rejected_____
Disposal Facility_____
Expiration Date _____
Special Instructions _____
Reviewed By _____

PART A. GENERAL INFORMATION

1. Business Name _____
2. SIC Code _____
3. Type of Business_____
4. Business Location _____
   (Street) (City) (State) (Zip Code)
5. Directions to Facility _____
6. Technical Contact Person_____ 7. Phone_____
8. Collector's Name (Hauler)_____ 9. Phone/Fax_____
10. Generator's Mailing Address _____

PART B. What is the general nature of your waste (Check all that apply):

1. ___Agricultural/Nursery Retail
2. ___Automotive Service
3. ___Dry Cleaning/Laundry Establishments
4. ___Industrial Process/Manufacturing
5. ___Medical/Veterinary/Pharmaceutical
6. ___Photo Film Processing
7. ___Retail/Office
8. ___Other _____ (Describe)

PART C. SOLID WASTE CHARACTERIZATION: (Please complete a separate form for each type of waste.)

1. Name of Waste _____
2. Current Method of Disposal _____
3. Frequency of Disposal _____
4. Quantity Generated_____ Per Week_____ Month_____ Year_____
5. Physical State_____ Solid_____ Liquid_____ Semi-Solid_____ Other (Describe)_____
6. Empty Container Types_____ How Many? (Per Week, Month, Year)_____
7. Is this a RCRA or D.O.T. hazardous material? (As defined in USEPA 40 CFR PART 260.10) _____YES _____NO
8. Are there any Free Liquids present? _____YES _____NO

PART D. SAMPLING CRITERIA

Some industrial/commercial wastes require analytical testing data to determine if they are acceptable for disposal in the Solid Waste Management System. The Hillsborough County Solid Waste Management Department (HCSWMD) may require additional information on your waste stream. (Please see instruction sheet.) The HCSWMD reserves the right to require additional analysis of waste prior to, or subsequent to acceptance for disposal.

1. Indicate current method used to determine the physical and chemical composition of the waste.

   _____TCLP _____OTHER (Describe):_____

2. A copy of current test results are to be submitted with this form. Attached? Yes_____ No_____

PART E. GENERATOR CERTIFICATION By signing this form, generator certifies that, unless clearly stated above:

1. This waste is not hazardous waste (as defined by the USEPA 40 CFR Part 260.10) Federal Regulation or other State and Local Regulations.
2. This waste does not contain any levels of Polychlorinated Biphenols (PCBs).
3. This waste does not contain any infectious, biomedical, or biohazardous waste materials.
4. This waste does not contain any soil (dirt) material.
5. This form contains a true and accurate description of the waste material to be disposed.
6. All relevant information regarding known or suspect hazards in possession of the generator has been disclosed.

NOTE: Should any changes occur in the character of the solid waste, the generator shall immediately notify the Hillsborough County Solid Waste Management Department.

7. _____ 8._____
   Signature Title

EXHIBIT 5

2. Calculate HCl emission rate for the unit.

$$\frac{29 \text{ moles HCl}}{1 \times 10^6 \text{ moles}} \frac{(41.6 \text{ moles})}{\text{dscm}} \frac{(36.46 \text{ g})}{\text{mole}} \frac{(1 \times 10^6 \mu\text{g})}{\text{g}} = 43{,}985.3 \frac{\mu\text{g}}{\text{dscm}}$$

$$43{,}985.3 \frac{\mu\text{g}}{\text{dscm}} \frac{(1 \text{ g})}{1 \times 10^6 \mu\text{g}} \frac{(18.639 \text{ dscm})}{\text{sec}} = 0.820 \text{ g/sec}$$

3. Calculate HCl emission rate for Facility.

0.820 g/s/unit (3 units) = 2.460 g/s

$$2.460 \frac{\text{g}}{\text{sec}} \frac{(1 \text{ ton})}{907{,}185 \text{ g}} \frac{(60 \text{ sec})}{\text{min}} \frac{(60 \text{ min})}{\text{hour}} \frac{(24 \text{ hours})}{\text{day}} \frac{(365 \text{ days})}{\text{year}} = 85.5 \text{ tons/year}$$

Basis: 1,500 parts per million on a dry volume basis corrected to 7 percent oxygen (ppmdv @ 7% O_2)

1. Apply 95 percent control efficiency.

1,500 ppmdv HCl @ 7% O_2 uncontrolled (100% - 95%) = 75 ppmdv HCl @ 7% O_2 controlled

2. Calculate HCl emission rate for the unit.

$$\frac{75 \text{ moles HCl}}{1 \times 10^6 \text{ moles}} \frac{(41.6 \text{ moles})}{\text{dscm}} \frac{(36.46 \text{ g})}{\text{mole}} \frac{(1 \times 10^6 \mu\text{g})}{\text{g}} = 113{,}755.2 \frac{\mu\text{g}}{\text{dscm}}$$

$$113{,}755.2 \frac{\mu\text{g}}{\text{dscm}} \frac{(1 \text{ g})}{1 \times 10^6 \mu\text{g}} \frac{(18.639 \text{ dscm})}{\text{sec}} = 2.120 \text{ g/sec}$$

3. Calculate HCl emission rate for Facility.

2.120 g/s/unit (3 units) = 6.361 g/s

$$6.361 \frac{\text{g}}{\text{sec}} \frac{(1 \text{ ton})}{907{,}185 \text{ g}} \frac{(60 \text{ sec})}{\text{min}} \frac{(60 \text{ min})}{\text{hour}} \frac{(24 \text{ hours})}{\text{day}} \frac{(365 \text{ days})}{\text{year}} = 221.1 \text{ tons/year}$$

Because HCl emission rates based on the percent removal efficiency approach result in higher calculated values, the HCl emission rate of 6.36 g/s was used in the worst-case dispersion modeling and compliance demonstrations for the Facility.

1. Dry volumetric flow rate for the Retrofit unit, as calculated by BURN:

   39,490.0 dry standard cubic feet per minute corrected to 7 percent oxygen (dscfm @ 7% O_2)

   $$39{,}490.0 \frac{\text{dscf}}{\text{min}} \left(\frac{1 \text{ dscm}}{35.31 \text{ dscf}}\right) \left(\frac{1 \text{ min}}{60 \text{ sec}}\right) = 18.639 \text{ dscm/sec}$$

2. Calculate NO_X emission rate (as NO_2) for the Retrofit unit.

   $$\frac{205 \text{ moles } NO_X}{1 \times 10^6 \text{ moles}} \left(\frac{41.6 \text{ moles}}{\text{dscm}}\right) \left(\frac{46.01 \text{ g}}{\text{mole}}\right) \left(\frac{1 \times 10^6 \mu\text{g}}{\text{g}}\right) = 392{,}373.3 \frac{\mu\text{g}}{\text{dscm}}$$

   $$392{,}373.3 \frac{\mu\text{g}}{\text{dscm}} \left(\frac{1 \text{ g}}{1 \times 10^6 \mu\text{g}}\right) \left(\frac{18.639 \text{ dscm}}{\text{sec}}\right) = 7.313 \text{ g/sec}$$

3. Calculate NO_X emission rate for Retrofit Facility.

   7.313 g/s/unit (3 units) = 21.94 g/s

   $$21.94 \frac{\text{g}}{\text{sec}} \left(\frac{1 \text{ ton}}{907{,}185 \text{ g}}\right) \left(\frac{60 \text{ sec}}{\text{min}}\right) \left(\frac{60 \text{ min}}{\text{hour}}\right) \left(\frac{24 \text{ hours}}{\text{day}}\right) \left(\frac{365 \text{ days}}{\text{year}}\right) = 762.7 \text{ tons/year}$$

B.6 MWC Metals

Mercury

Mercury (Hg) is made a metallic vapor at the combustion temperatures for municipal solid waste. The activated carbon injection system will adsorb mercury onto the carbon. In addition, the SDA will reduce flue gas temperatures, encouraging mercury condensation onto particulate matter. The downstream FF will then effectively remove particulate matter and carbon particles containing mercury. This system will control Hg emissions to meet the state and EG limits: 70 micrograms per dry standard cubic meter (μg/dscm), or reduce emissions by 85 percent, whichever is less stringent (corrected to 7% O_2), both over a 3-hour arithmetic mean, as determined by annual stack tests using EPA Method 29.

The maximum inlet concentration was estimated from stack test data for the Tampa McKay Bay Refuse to Energy Facility, which is in Hillsborough County. The uncontrolled inlet Hg concentration of 900 μg/dscm (corrected to 7% O_2, dry basis) is the highest single-unit one-hour average stack test result of 875.7 μg/dscm, rounded up, from the October 1996 test series. The control system will reduce this inlet concentration by 85 percent to achieve an outlet Hg concentration of 135 μg/dscm (@ 7% O_2) or less.

ADMINISTRATIVE OFFICES, LEGAL & WATER MANAGEMENT DIVISION
1900 - 9TH AVENUE
TAMPA, FLORIDA 33605
TELEPHONE (813) 272-5960
FAX (813) 272-5157

AIR MANAGEMENT DIVISION
TELEPHONE (813) 272-5530

WASTE MANAGEMENT DIVISION
TELEPHONE (813) 272-5788

WETLANDS MANAGEMENT DIVISION
TELEPHONE (813) 272-7104

ENVIRONMENTAL PROTECTION COMMISSION
of Hillsborough County

FAX Transmittal Sheet

DATE: 10/15/97

TO: Theresa Herron

FAX Phone: auto Voice Phone: SC 2781344

TOTAL NUMBER OF PAGES INCLUDING THIS COVER PAGE: 3

EPC FAX Transmission Line: (813) 272-5605
For retransmission or any FAX problems, call: (813) 272-5530

FROM: Rick Kirby
(Circle applicable section below)

Air Division

-Enforcement

(-Engineering)

-Support Operations

SPECIAL INSTRUCTIONS: Hills Co Solid Waste Recovery

ADMINISTRATIVE OFFICES, LEGAL & WATER MANAGEMENT DIVISION
1900 - 9TH AVENUE
TAMPA, FLORIDA 33605
TELEPHONE (813) 272-5960
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AIR MANAGEMENT DIVISION
TELEPHONE (813) 272-5530

WASTE MANAGEMENT DIVISION
TELEPHONE (813) 272-5788

WETLANDS MANAGEMENT DIVISION
TELEPHONE (813) 272-7104

M E M O R A N D U M

DATE: October 15, 1997

TO: Theresa Herron

FROM: Richard C. Kirby, IV, P.E.
THROUGH: - Jerry Campbell, P.E.

SUBJECT: **Hillsborough County Solid Waste Recovery Facility (HCSWRF) Application for Air Pollution Control Equipment Retrofit**

The EPC Air Management Division Engineering staff has reviewed the referenced application package prepared by Camp Dresser and McKee. We would like to offer the following comments.

1. In Volume II, page 2-17 HCSWRF requested an expanded definition of municipal solid waste (MSW) authorized to be burned at the facility. The permit, when issued, should contain a strict definition of materials authorized for combustion. Some of the wastes proposed by the applicant constitute industrial waste and segregated wastes. We feel strongly that this definition must not be too broad.

2. HCSWRF seems to meet the definition of "incinerator" used in 40 CFR 61 Subpart C, the Beryllium NESHAP. Therefore, this NESHAP would be applicable to them.

3. The "Proposed Permit Emission Limit" column has the superscript "7" behind nine of the pollutant emission limits. The note that goes along with the number "7" implies the emission limit compliance date is revised to the year 2002. The August 1997 Federal Register does revise the limit and compliance date, but only for lead, sulfur dioxide, and hydrogen chloride (and the limit for nitrogen oxides, but not the date). The compliance date of December 19, 2000 remains in effect for the other emission limits specified in subpart Cb. Note: According to the construction schedule proposed showing acceptance testing in September - October 2000, HCSWRF should be able to comply with the dates.

4. HCSWRF is also asking to use Method 22 for testing for the fugitive emissions from ash handling rather than Method 9. This really refers to uncontrolled emissions and Method 22 may not be appropriate.

5. Finally, HCSWRF is also asking to measure the amount of waste combusted based on steam flow versus actual tonnage, an issue that has been contentious in the past. We oppose this since there is no good correlation to heat input and fuel input.

6. Provide complete design calculations for pollution control equipment. These should include component sizes, feed rates, flow rates, reaction rates, assumptions, and references to support parameters used.

7. In the letter from Al Linero to Mayor Greco, City of Tampa, regarding the McKay Bay Facility and dated October 14, 1997, Numbers 1, 5, and 7 are applicable to this project.

cag

TO: Hamilton B. Oven
Power Plant Siting Coordinator

THROUGH: Al Linero
Bureau of Air Regulation

FROM: Teresa Heron
Bureau of Air Regulation

DATE: October 14, 1997

SUBJECT: Hillsborough County Resource Recovery Facility
PA 82-19 and PSD-FL-121 (B)

The following information is needed in order to continue processing this application:

POLLUTANT INFORMATION

1. Table 1-1 provides a comparison of existing permitted and proposed emission limits. Please submit actual emissions (TPY for a two years period) of all pollutants pursuant to Rule 62-212.400 (2) (e) F.A.C., for each of the boilers that is representative of the normal operation of each unit prior to the retrofit project.
2. Are the emissions from the auxiliary burners included in the total emission from the facility?
3. Calculate pollutant emissions at all level of the operating window proposed (lb/MMBtu, lb/hr, lb/ton and ton/yr).

WASTE COMBUSTION

4. Does this RRF expect to receive MSW from other counties?
5. Describe, if any, Hillsborough County's recycling program (source separation, composting, waste reduction, etc). Are household batteries and lead-acid batteries removed from the waste stream?
6. Indicate which of the wastes specified in the application are already burned at this facility. Provide annual tonnage of waste processed by this facility over the last five years along with any heat content determination that have been made for the waste burned.
7. Pursuant to Rules 62-4.070 (3), F.A.C., please provide reasonable assurance that the burning of the proposed wastes as specified on page 2-17 and 2-18 will not contravene Department rules or contribute to an exceedance of the E.G. standards for Municipal Solid Waste Facilities (40 CFR 60, Subpart Cb). Include all assumptions, reference materials and calculations (i.e., test data or emission estimates from other RRFs burning these types of wastes, quantity of the proposed specified waste products to be burned percentage of heat input from each waste, fuel analysis, etc.). How will the proposed specification of fuels affect overall waste throughput quantities? We may submit some additional questions regarding wastes and fuels following review by the Department solid waste staff.

CONTROL EQUIPMENT

8. The detailed description of the air pollution control equipment was not submitted. Provide additional information, including engineering design specification sheets, for the proposed control technology. What are the manufacturer's guaranties of efficiency of the control equipment, etc.? Please include for each baghouse, as a minimum, the following information:

    - Design emission rate for particulate matter (before and after proposed controls)
    - Baghouse operation temperature (F) range
    - Number of separate baghouses
    - Number of isolated compartments per baghouses
    - Design criteria for air to cloth ratio or range of acceptable ratios
    - Cloth description
    - Type of bag cleaning under consideration and subsequent cleaning controls
    - Strategy for detecting and replacing faulty bags
    - Description of ash handling and disposal system
    - Nature and terms of performance guarantee

    If the above information cannot be submitted as requested, the proposed permit would be conditioned on submittal of detailed design specifications prior to commencement of construction.

9. How are odors controlled at this facility? Describe any complaints (if any) on the existing facility and how improvements for odor control will be addressed .

MONITORING EQUIPMENT AND MONITORING LOCATIONS

10. Provide information concerning emission monitoring equipment and monitoring locations.

11. Provide the make and model number along with the specification sheets and operation and maintenance manuals for all combustors, recorders, scrubbers, baghouses and CEMs for recording opacity, oxygen, carbon monoxide, NO_x and SO_2.

AIR PERMIT APPLICATION FORM AND APPENDICES

12. Appendix B: On page B-6, shouldn't the 29 moles SO_2 refer to HCl instead of SO_2? On page B-9, shouldn't the 205 moles of CO refer to NOx instead?

13. Appendix C: Flow rate discrepancies exist between the existing and future nominal flow rates used. Why is the difference in data? Show calculation of nominal data.

14. Section III Part 7a-1. The maximum dry standard flow rate listed is 53189 dscfm. However, is not the same flow used in the BURN model output. Please update this page. Show calculations.

15. What is the rationale for using emission data from 1987? The information provided in Appendix E referred to tests conducted in 1987.

Tuesday, March 25, 1997
1:30 p.m.

Bill Cabin	RTP Env. Assoc.	908-968-9600
Tim Porter	Intralaboratory	603 929 - 3385
Chris Fancy	FDEP	904 488 1344
A.A. Linero	DEP	904 488 - 1344
Michael Hewett	DEP/OPAPM	904/488-0114
David S. Dee	Landers & Parsons	904 - 681 - 0311
Pat Comer	FDEP/OGC	904 . 488 . 9730
Teresa Heron	FDEP/NSR	904 - 488 - 1344
Syed Arif	FDEP/NSR	904 - 488 - 1344
Donald F. Elias	RTP Env. Assoc.	908 - 968 - 9600
Dan Strobridge	CDM	813 - 281 - 2900
Louis Nichols	FDEP/EMS	904/488-6140
Paul J. Brandi	" "	"
M.D. HARLEY	" "	"

Department of Environmental Protection

Lawton Chiles
Governor

Twin Towers Office Building
2600 Blair Stone Road
Tallahassee, Florida 32399-2400

Virginia B. Wetherell
Secretary

January 30, 1997

CERTIFIED MAIL - RETURN RECEIPT REQUESTED

Mr. Donald F. Elias
RTP Environmental Associates Inc.
239 U.S. Highway 22 East
Green Brook, New Jersey 08812-1909

Dear Mr. Elias:

Re: Hillsborough County RRF Emission Guidelines Compliance Project
Your letters of November 14 and 19, 1996

The Department is in receipt of your letters dated November 14 and 19, 1996, on behalf of the Hillsborough County Resource Recovery Facility (HCRRF) requesting approval of various issues prior to submittal of the construction permit application. The purpose of the referenced project is to comply with 40 CFR 60 Subpart Cb - Emission Guidelines and Compliance Times for Municipal Waste Combustors that are constructed on or before December 19, 1995 (adopted as in Rule 62-204.800(8)(b), F.A.C.). These issues pertain to the Reasonable Available Control Technology (RACT) requirements for minor and fugitive sources of Particulate Matter (PM) as well as the definition of municipal solid waste (MSW) and the most appropriate process limitation for the proposed project.

The Department has reviewed your request and has the following responses:

RACT DETERMINATION

The Subpart Cb requirements for PM from minor and fugitive sources proposed for these sources appear to be reasonable as RACT. The specific plan will be reviewed with your application and a determination will be made as part of our technical review pursuant to the Department's authority contained in Rule 62-296.711(2)(c) F.A.C. However, the proposal to use a different test method (EPA Method 22 instead of EPA Method 9) will be reviewed under *Exceptions and Approval of Alternate Procedures and Requirements*, Rule 62-297.620 F.A.C. The Department does not have the authority under 62-296.711 (3) F.A.C. to approve a different test method.

Please submit a request in accordance with Rule 62-297.620 F.A.C., for approval of an alternate sampling procedure (ASP) along with your application.

DEFINITION OF MUNICIPAL SOLID WASTE (MSW) AS INCLUDED IN THE EG

The Department has received requests other than yours regarding the definition of solid waste from other MWC operators. We have referred these matters to the Division's Office of Policy Analysis and Program Management who will coordinate a response with this Bureau, the Office of General Counsel, and the Bureau of Solid and Hazardous Waste Management. We will provide a determination on this matter during the course of reviewing the application.

OPERATING CONDITIONS

PROCESS LIMITATION:

Based on preliminary discussions, the Department is not inclined to delete the current MSW throughput limit measured as tons per day (TPD). We are continuing to review the matter and will make a final decision during review of the application.

We recognize that the throughput rating depends on the heating value of the waste. Heating value of municipal waste can vary significantly from one part of the country to another. It can also vary in time based on changing composition of municipal waste - for example from the continuing trend toward burning of plastics. Therefore a 250 TPD unit in one part of the country and at a given time may not be a 250 TPD unit at another site or time. Note however that based on the increasing amounts of plastic in waste, we would expect the units to be capable of processing less waste instead of more than originally designed to handle (unless they were overdesigned to begin with).

Now that the units at HCRRF have operated for years, it should be possible to provide ratings for them and get the manufacturer or modification contractor to guarantee their ability to efficiently burn waste throughout an appropriate operating window. If the new ratings (for waste throughput and steam production) and future method of operation will result in an increase in emissions, it will be necessary to conduct a PSD and BACT Review. You will need to assess and reconcile the ramifications of the permit revisions required to incorporate the NSPS requirements with the possible PSD/BACT implications of a throughput increase.

The proposal to use steam production to calculate the solid waste firing rate (in lieu of actually weighing the material) will be acceptable *only* under the following circumstances:

1. COMPLIANCE TESTING

Under this scenario, HCRRF would be required to use the F-factor in Table 19-1 of EPA Method 19 or collect the samples necessary to determine a fuel specific F- factor and heating value at the time of each run of the emission test. The procedures specified in EPA Method 19 should be used to determine the fuel specific F- factor and heating value. This eliminates boiler efficiency as a potential source of error. Subpart Ea [40 CFR 60.58a (b) (4)] requires affected sources to use the F- factor and EPA Method 19 in the emission rate determination. EPA Method 19 allows HCRRF the option of using the F- factor in Table 19 or determining a source specific F- factor using the procedure given in EPA Method 19.

2. CONTINUOUS COMPLIANCE

Under this scenario, HCRRF will either need to install weighing devices, or devices to continuously measure flue gas flow rate and oxygen and content. HCRRF would also need to either use the F- factor in Table 19-1 of EPA Method 19 or conduct daily analyses to determine the fuel specific F- factor and heating value. When units are continuously charged the options include, but are not limited to, belt scales. For units that are continuously charged, the weighing options may include a weighing device mounted on the crane based on the principle of a strain gauge.

Is your RETURN ADDRESS completed on the reverse side?

SENDER:

- Complete items 1 and/or 2 for additional services.
- Complete items 3, 4a, and 4b.
- Print your name and address on the reverse of this form so that we can return this card to you.
- Attach this form to the front of the mailpiece, or on the back if space does not permit.
- Write "*Return Receipt Requested*" on the mailpiece below the article number.
- The Return Receipt will show to whom the article was delivered and the date delivered.

I also wish to receive the following services (for an extra fee):

1. ☐ Addressee's Address
2. ☐ Restricted Delivery

Consult postmaster for fee.

3. Article Addressed to:
Don Elias
RTP Env. Assoc. Inc.
239 US Hwy 22 East
Green Brook, NJ
08812-1909

4a. Article Number
P 265 659 154

4b. Service Type
☐ Registered ☑ Certified
☐ Express Mail ☐ Insured
☐ Return Receipt for Merchandise ☐ COD

7. Date of Delivery
2/6/97

5. Received By: *(Print Name)*

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

6. Signature: *(Addressee or Agent)*
X Mary J. Nolan

PS Form **3811**, December 1994

Domestic Return Receipt

Thank you for using Return Receipt Service.

P 265 659 154

US Postal Service
Receipt for Certified Mail
No Insurance Coverage Provided.
Do not use for International Mail *(See reverse)*

Sent to Don Elias	
Street & Number RTP	
Post Office, State, & ZIP Code Green Brook, NJ	
Postage	$
Certified Fee	
Special Delivery Fee	
Restricted Delivery Fee	
Return Receipt Showing to Whom & Date Delivered	
Return Receipt Showing to Whom, Date, & Addressee's Address	
TOTAL Postage & Fees	$
Postmark or Date 2-3-97 Hillsboro RAF	

PS Form **3800**, April 1995

OPERATING WINDOW

The Department acknowledges your statement that the MSW unit will be operationally limited by 40 CFR 60.53b (b) to a load level of 110% or less of the maximum demonstrated MWC *unit load [40 CFR 60.51b and 40 CFR 60.58b(i)(6)]*. This is consistent with the federal guidelines which stated that " no owner or operator of an affected facility located within a small or large municipal waste combustor plant shall cause such facility to operate at a load level greater than 110 percent of the of the maximum demonstrated MWC *unit load* level [highest 4-hour arithmetic average], achieved during four consecutive hours during the most recent dioxin/furan compliance test" (Page 65424, FR/Vol 60. No. 243 Tuesday, December 19, 1995).

The *proposed operating window* based on 80% to 115% of a nominal 250 tpd capacity and 80% to 115% of a nominal 104.2 MMBtu/hour capacity (250 tpd at 5000 Btu/lb) is not acceptable as presented because it appears to conflict with NSPS Subpart Cb. However, as mentioned above, the characteristics of the unit can be updated (by the manufacturer or modification designers) and expressed at a nominal heating value of 4,500 Btu/lb as indicated in Subpart Cb and the operating window defined within the constraints of Subpart Cb *[40 CFR 60.51b and 40 CFR 60.58b(j)]*.

HCRRF shall also comply with Rule 62-297.310(2), F.A.C., Operating Rate during Testing and Rule 62-297.310(2)(b) F.A.C., Permitted Capacity definition.

If you have any questions, please contact Al Linero or Teresa Heron at 904/488-1344.

Sincerely,

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

CHF/th/hh

cc: Brian Beals, EPA
Bill Thomas, SWD
Jerry Campbell, HCEPC
Pat Comer, DEP
Larry George, DEP
Dottie Diltz, DEP
Michael Hewett, DEP

RTP ENVIRONMENTAL ASSOCIATES INC.®

AIR • WATER • SOLID WASTE CONSULTANTS

239 U.S. Highway 22 East
Green Brook, New Jersey 08812-1909

(908) 968-9600
Fax: (908) 968-9603

November 14, 1996

RECEIVED
NOV 20 1996
BUREAU OF
AIR REGULATION

Mr. Clair H. Fancy, P.E.
Florida Dept. of Environmental Protection
Bureau of Air Regulation
2600 Blair Stone Road
Tallahassee, FL 32399-2400

Dear Mr. Fancy:

As discussed in our meetings last week with the Department, Camp Dresser & McKee, Inc. (CDM) is planning to submit a construction permit application for the Hillsborough County Resource Recovery Facility (HCRRF) in early 1997. The permit application will be to obtain the necessary Department approvals for planned improvements to the HCRRF to meet the Emission Guidelines (EG) requirements given at 40 CFR 60 Subpart Cb, and incorporated by reference at FAC 62-204.800(8). Since the facility is located in the particulate matter (PM) maintenance area described in FAC 62-204.340(4)(b)1, we are seeking guidance from the Department concerning Reasonably Available Control Technology (RACT) requirements for PM emissions from minor and fugitive sources. This information will assist us with preparation of the permit application and the preliminary facility design.

RACT requirements for PM emissions are given at FAC 62-296.700 through 62-296.712. For minor and fugitive particulate sources at HCRRF, applicable RACT requirements are given at FAC 62-296.711, Materials Handling, Sizing, Screening, Crushing and Grinding Operations. These PM RACT requirements are applicable to:

- Loading/unloading of materials to/from containers such as trucks and storage structures (FAC 62-296.711(1)(a));
- Non-portable conveyor systems (FAC 62-296.711(1)(b)); and
- Storage of materials in silos or enclosed bins with capacities of 50 cubic yards or greater (FAC 62-296.711(1)(c)).

PM RACT emission limitations for Materials Handling...Operations are given as:

- No visible emissions (i.e., 5% opacity) (FAC 62-296.711(2)(a)) and
- Emissions exhausted through a stack or vent shall be limited to 0.03 gr/dscf or less for operations totally or partially enclosed to comply with the RACT visible emissions limits (FAC 62-296.711(2)(b)).

Pursuant to the authority given the Department at FAC 62-296.711(2)(c), the applicant is requesting the Department to approve the following alternative limitations as RACT for the proposed HCRRF improvements. These alternative limitations are based on the EG requirements or recent permit applications for similar type sources.

Visible Emission Limitations for Fugitive PM Emissions

Ash conveyors and ash storage, handling, and transfer facilities are enclosed to minimize fugitive emissions. However, some fugitive emissions will still occur from small openings in the enclosure, from seams around access hatches, from building doors, etc. Also, maintenance and repair activities may require opening of the enclosure that could generate short-term fugitive emissions.

USEPA recognized in the new EG that it is not possible to eliminate all visible emissions of ash at all times. USEPA's EG standards at 40 CFR 60.55b(a) do not allow visible emissions "in excess of 5% of the observation period (i.e., 9 minutes per 3-hour period), as determined by EPA Reference Method 22..." Stated differently, visible emissions are allowed up to 9 minutes per 3-hour observation period. As noted at 40 CFR 60.55b(b), this standard applies to both fugitive emissions and emissions from buildings or enclosures of ash conveying systems. The standard for visible emissions does not apply during maintenance and repair activities of ash conveying systems, as noted at 40 CFR 60.55b(c). It should be noted that the EG standards were developed by USEPA after spending several years studying muncipal waste combustors in the United States. The limits in the EG are based on the use of Maximum Achievable Control Technology (MACT), which represents the level of performance that is attained by the best 12% of all existing facilities. In light of these facts, the applicant is requesting that the EG visible emission limitations for fugitive ash emissions be approved as RACT for the HCRRF by the Department.

Outlet PM Emission Limitations for Minor PM Sources

Upgrading the air pollution control (APC) equipment to meet the EG requirements (i.e., adding spray dry adsorbers and carbon injection systems) will require lime and activated carbon storage silos. The silos will be equipped with dust collectors (i.e., baghouses) to control PM emissions during filling operations. PM emissions from the baghouse ventilating the ash handling building are already included in the existing permit at emission limits of 1.63 lb/hour (equal to 0.02 gr/dscf at 9500 dscf/min) and opacity not to exceed 5%. As part of the bid specifications for the HCRRF improvements, the County plans to specify dust collectors for the silos with design outlet loadings of 0.015 gr/dscf. The applicant is requesting the Department to determine that this proposed emission limitation complies with the Department's RACT requirements.

In addition, pursuant to FAC 62-296.711(3)(c), the applicant is requesting that compliance for the silo dust collectors be determined using USEPA Method 9 visible emission tests indicating no visible emissions (5% opacity) in lieu of particulate stack tests (i.e., the same as currently permitted for that ash building ventilation baghouse).

Thank you for your consideration of these matters. The Department's response to these PM RACT issues will assist us in our preparation of the preliminary facility design and air permit application forms. If you have any questions, please feel free to contact me at 908-968-9600 or David S. Dee, Esq. at 904-681-0311.

Sincerely,

RTP ENVIRONMENTAL ASSOCIATES, INC.®

Donald F. Elias
Principal

DFE/WEC/wec

cc: A. Linero, T. Heron, C. Holladay/FDEP-Tallahassee
J. Kissel/FDEP-Southwest District
J. Campbell/Hillsborough County Environmental Protection Commission
T. Smith, Hillsborough County Department of Solid Waste
D. Strobridge, C. Hibbard/CDM
R. Donelan, Jr., Esq./Carlton Fields
W. Corbin, HCRR2 Project File/RTP

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Fax: (908) 968-9603

November 19, 1996

RECEIVED
NOV 20 1996
BUREAU OF
AIR REGULATION

Mr. Clair H. Fancy, P.E.
Florida Dept. of Environmental Protection
Bureau of Air Regulation
2600 Blair Stone Road
Tallahassee, FL 32399-2400

Dear Mr. Fancy:

As discussed in our November 6th and 7th meetings with the Department, Camp Dresser & McKee, Inc. (CDM) is planning to submit a construction permit application for the Hillsborough County Resource Recovery Facility (HCRRF) in early 1997. After obtaining the necessary Department approvals, proposed improvements to the HCRRF will be made to enable the facility to meet the Emission Guidelines (EG) requirements contained in 40 CFR 60 Subpart Cb, and incorporated by reference at FAC 62-204.800(8). The applicant is also requesting other changes in the permit to make conditions consistent with EG definitions and current industry practice.

For allowable fuels, the applicant is proposing to use the definition of Municipal Solid Waste (MSW) as included in the EG, with some clarifications based on the intent of the EG and current statewide practices. The applicant is also proposing to redefine the operating window for the facility based on steam load, according to EG requirements, rather than waste throughput, which is impossible to accurately measure.

There is considerable interest in expediting the EG improvements to the HCRRF. Therefore, we are submitting the attached for your approval so we can complete the air permit application. Thank you for your consideration to these matters. If you have any questions, please feel free to contact either William E. Corbin or myself at 908-968-9600.

Sincerely,

RTP ENVIRONMENTAL ASSOCIATES, INC.®

Donald F. Elias
Principal

DFE/WEC/wec

Attachment

cc: A. Linero, T. Heron, C. Holladay/FDEP-Tallahassee
J. Kissel/FDEP-Southwest District
J. Campbell/Hillsborough County Environmental Protection Commission
T. Smith/Hillsborough County Department of Solid Waste
D. Strobridge, C. Hibbard/CDM
R. Donelan, Jr., Esq./Carlton Fields
W. Corbin, HCRR2 Project File/RTP

DRAFT LANGUAGE FOR INCLUSION INTO AIR CONSTRUCTION PERMIT APPLICATION

Definition of Allowable Fuels

Current permit conditions for the Hillsborough County Resource Recovery Facility (HCRRF) allow the incineration of refuse such as garbage and trash as defined at Florida Administrative Code (FAC) 17-7 (now FAC 62-701) but not sludge or other wastes from sewage treatment plants (i.e., prohibits the charging of grease, scum, grit screenings or sewage sludge to the facility). Thus, the facility currently can accept a wide variety of materials that fits within the broad definition of municipal solid waste (MSW), except for sewage treatment waste, hazardous waste, untreated medical waste, radioactive materials, and those special wastes that are prohibited by law, such as lead acid batteries. Acceptable wastes may be received either as a mixture or as a single-item stream of household, commercial, institutional, or industrial discards (except industrial process wastes). In addition to the typical components of MSW, the facility also can receive a variety of other non-hazardous wastes, including but not limited to pharmaceuticals, contraband, used oil filters, waste oil, yard trash, agricultural waste, treated medical waste, plastics, waste tires, and oil spill debris.

In order to make the permit consistent with EG definitions incorporated by reference at Florida Administrative Code (FAC) 62-204.800(8), the applicant is proposing to redefine fuel charged at the facility as MSW as defined at 40 CFR 60.51b, except for those materials prohibited by law. The federal and EG MSW definitions are consistent with current permit conditions. For example, Section 129(g)(5) of the Clean Air Act defines "Municipal Waste" as:

> *"refuse (and refuse-derived fuel) collected from the general public and from residential, commercial, institutional, and industrial sources consisting of paper, wood, yard wastes, food wastes, plastic, leather, rubber, and other combustible materials and non-combustible materials such as metals, glass and rock...[but] does not include industrial process wastes or medical wastes that are segregated from such other wastes."*

An equally broad definition of MSW is included in USEPA's EG for MWCs (40 CFR 60.51b):

> *"Municipal solid waste or municipal-type solid waste or MSW means household, commercial/retail, and/or institutional waste. Household waste includes material discarded by single and multiple residential dwellings, hotels, motels, and other similar permanent or temporary housing establishments or facilities. Commercial/ retail waste includes material discarded by stores, offices, restaurants, warehouses, nonmanufacturing activities at industrial facilities, and other similar establishments or facilities. Institutional waste includes material discarded by schools, nonmedical waste discarded by hospitals, material discarded by nonmanufacturing activities at prisons and government facilities, and material discarded by other similar establishments or facilities. Household, commercial/ retail, and institutional waste does not include used oil; sewage sludge; wood pallets; construction, renovation, and demolition wastes (which includes but is not limited to railroad ties and telephone poles); clean wood; industrial process or*

manufacturing wastes; medical waste; or motor vehicles (including motor vehicle parts or vehicle fluff). Household, commercial/retail, and institutional wastes include: (1) Yard wastes; (2) Refuse-derived fuel; and (3) Motor vehicle maintenance materials limited to vehicle batteries and tires..."

In the EG preamble (60 FR 65392), the MSW definition is further clarified to include either a mixture or a single-item waste stream of household, commercial and/or institutional discards. Also, while the MSW definition does not include used oil, sewage sludge, wood pallets, medical waste, etc., these wastes can be intermixed and combusted with MSW (i.e., the regulations do not prohibit their combustion).

Since the EG requirements and definition of MSW are consistent with current operating practices and permit conditions, the County proposes to redefine allowable fuel as:

> *"The authorized fuels for the facility include municipal solid waste (MSW), as defined at 40 CFR 60.51b, and non-hazardous solid waste, except those materials that are prohibited by state or federal law or otherwise prohibited below. The authorized fuels may be received either as a mixture or as a single-item stream of household, commercial, institutional, agricultural or industrial discards (except industrial process wastes). The facility may receive non-hazardous wastes not included in the federal definition of MSW including, but not limited to, pharmaceuticals, contraband, used oil filters, waste oil, yard trash, agricultural waste, treated medical waste, plastics, waste tires, and oil spill debris, provided that these materials are intermixed and combusted with MSW. The facility owner and operator shall not knowingly burn prohibited fuels, such as lead acid batteries, industrial process wastes, untreated medical wastes, nuclear wastes, and sludge or sewage treatment wastes (e.g., grease, scum, grit, and sewage sludge)."*

All of the allowable materials can be safely combusted at the facility because the units are designed to handle a wide range of operating conditions. The combustion of these materials will not adversely affect the facility's ability to comply with permit requirements. The facility will be equipped with spray dry adsorbers, fabric filters, selective non-catalytic reduction, and activated carbon injections systems, which are designed to handle all of the operating conditions that are likely to occur while combusting the normal fuels, including all of the fuels described herein. These air pollution control systems perform well, even when there are fluctuations in the facility's operating conditions. Further, the facility will have continuous emission monitors, which will monitor the facility's performance at all times and under all operating conditions.

Operating Conditions

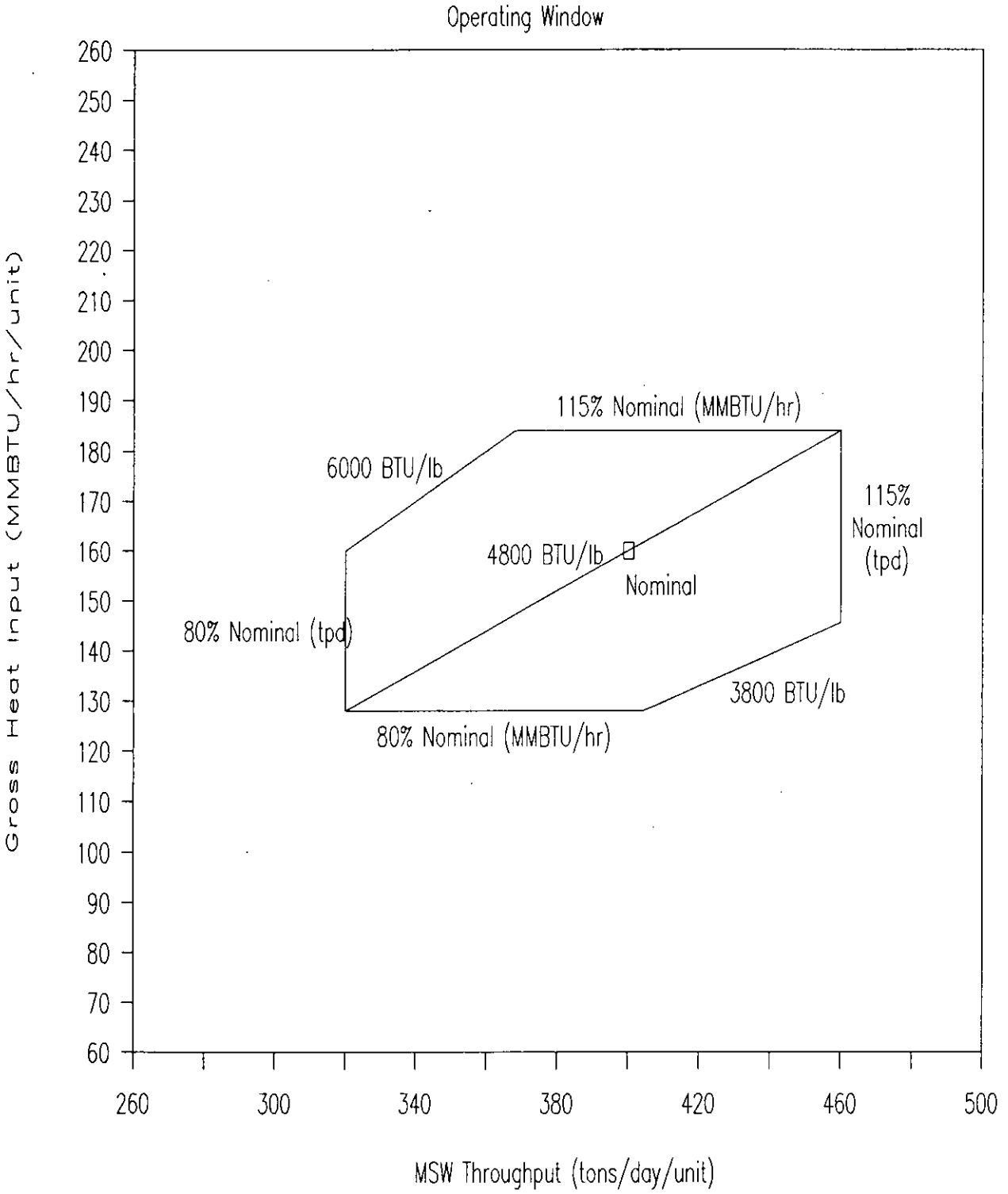
The facility consists of three MWCs with each MWC capable of incinerating a nominal 400 tons/day (tpd) of waste. Each unit is currently permitted to combust up to 440 tpd of MSW and operate up to a gross heat input rate of 165 million BTU per hour (MMBTU/hr). MSW is a

heterogenous material and the estimated heat content of MSW ranges from 3800 to 6000 BTU/lb, based on the amount of moisture and non-combustible materials present (average estimated to be 4800 BTU/lb based on recent data). Since emissions and other combustion parameters are related to the incineration of combustible materials, recent industry practice has been to rate MWC units on gross heat input, similar to fossil fuel boilers and other types of combustion equipment, rather than MSW tonnage. As a practical matter, it is impossible to accurately weigh the amount of MSW combusted during short time intervals, but compliance with permitted heat input rates can be determined from steam flow measurements, which are directly related to heat input based on the unit's efficiency.

In the original 1991 EG for MWCs, USEPA recognized that MWCs are "heat input devices" and that actual capacity should be determined by heat input rather than by the weight of MSW charged due to the varying heat content of MSW. As a result, USEPA promulgated maximum capacity requirements based on steam load, which have been retained in the current EG. The measurement of steam load, based on ASME methods, gives a practical method to continuously measure facility load and, together with particulate device temperature and flue gas oxygen (or carbon dioxide) measurements, demonstrate good combustion practice.

Therefore, Hillsborough County would like to delete the current permit limits for MSW throughput and modify the permit limits to be consistent with EG requirements. The operating window shown on the attached figure reflects the physical capacity of each MWC unit. The operating window is based on 80% to 115% of a nominal 400 tpd capacity and 80% to 115% of a nominal 160 MMBTU/hour capacity (400 tpd at 4800 BTU/lb). Maximum unit capacity will be determined by steam load, based on annual compliance tests and continuous steam flow measurements (averaged over four hours), as required by the EG. The maximum demonstrated MWC unit load is defined in 40 CFR 60.51b as the highest 4-hour arithmetic average steam load, measured in accordance with 40 CFR 60.58b(i)(6), during the most recent dioxin stack test which demonstrated compliance. After the maximum unit capacity is established during the annual stack test, the unit will be operationally limited by 40 CFR 60.53b(b) to a load level of 110% or less of the maximum demonstrated MWC unit load. Compliance with this limit is based on continuous steam flow measurements calculated in 4-hour block arithmetic averages. Including these EG requirements for steam load as permit conditions will effectively limit the facility's capacity in a manner that is consistent with the EG requirements and current industry practice.

Hillsborough County Resource Recovery Facility



HILLSBOROUGH COUNTY RESOURCE RECOVERY FACILITY

Air Permit Discussion Issues
November 6 and 7, 1996

EMISSION GUIDELINE (b)

I. INTRODUCTION OF PROJECT PERSONNEL

II. SCOPE OF PROJECT — JUST APC EQUIPMENT

III. PERMITTING ISSUES — PROCESS RATES – Normalize around a parameter which makes sense and is not increasing. Steam flow, TPD, Heat Input.

- A. Non-PSD Applicability
- B. Air Pollution Control Analysis Requirements
- C. Air Quality Impact Analysis Requirements

IV. RACT ISSUES - Minor PM Sources in PM Maintenance Area — – No agreement now !! Get us facts + will will review. We will do rule applicability.

- A. Fugitive Ash Emissions
- B. Minor Baghouse Sources (e.g., lime and activated carbon silos)

V. OTHER AGENCY INVOLVEMENT

- A. USEPA > WE WILL PROVIDE LETTER
- B. National Park Service

VI. SCHEDULE

VII. CONTACT PERSONNEL

Thomas G. Smith
Hillsborough County
Department of Solid Waste
P.O. Box 1110
Tampa, FL 33601
813/276-2909 813/276-2960 (Fax)

Richard T. Donelan, Jr., Esq.
Carlton Fields
P.O. Drawer 190
Tallahassee, FL 32302
904/224-1585
904/222-0398 (Fax)

Daniel E. Strobridge
Camp Dresser & McKee Inc.
Westshore Center
1715 North Westshore Blvd, Suite 875
Tampa, FL 33607
813/281-2900 813/288-8787 (Fax)

Donald F. Elias
RTP Environmental Associates, Inc.
239 U.S. Highway 22 East
Green Brook, NJ 08812
908/968-9600
908/968-9603 (Fax)

FDEP	Hillsborough Cty	11/6/96

Name	Organization	Phone
Donald F. Elias	RTP Environmental	(908) 968-9600
Richard T. Donelon	Carlton, Fields	(904) 224-1585
Bill Corbin	RTP	908-968-9600
Cynthia Hibbard	CDM	(617) 252-8233
Teresa Heron	DEP	(904) 488-B44
Steve Holladay	DEP	904-1344
Bob Keen	DEP	904 921-7744
Dan Strathridge	CDM	813 281 2900
Al Linero	DEP	(904) 488-1344

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239 U.S. Highway 22 East
Green Brook, New Jersey 08812-1909

(908) 968-9600
Fax: (908) 968-9603

October 11, 1996

Mr. Clair H. Fancy, P.E.
Florida Dept. of Environmental Protection
Bureau of Air Regulation
Twin Towers Office Building
2600 Blair Stone Road
Tallahassee, FL 32399-2400

Dear Mr. Fancy:

This letter is to confirm our meeting on the afternoon of Wednesday, November 6th concerning the Hillsborough County Resource Recovery Facility (RRF). The meeting will be held at your offices at 111 S. Magnolia in Tallahassee. This pre-application meeting is to discuss permitting requirements and protocols for modifying the RRF to meet the Emission Guideline (EG) requirements.

Please call me with your confirmation of this meeting and a list of possible attendees from the Department. If you have any questions, please feel free to contact me at the above number.

Sincerely,

RTP ENVIRONMENTAL ASSOCIATES, INC.®

Donald F. Elias/wec

Donald F. Elias
Principal

DFE/WEC/wec

cc: A. Linero, C. Holladay, T. Rogers/FDEP
D. Strobridge, C. Hibbard/CDM
T. Smith/Hillsborough County
R. Donelan, Esq./Carlton Fields

```
Details | Emis unit | perMit | prOject | Pollutant | reLated party |    >
------------------------------  ARMS Facility  ------------------------------
+-------------------------------------------------------------------------------+
| POINT Office SD   Sth: FT MYERS        Cty LEE                AIRS ID 0710119 |
+-------------------------------------------------------------------------------+
|     Owner LEE COUNTY                                Name LEE COUNTY ENERGY RECOVER|
|Directions LEE COUNTY ENERGY RECOVERY FACILITY                                 |
|    Street LEE COUNTY ENERGY RECOV FACIL                                       |
|      City FORT MYERS                              Zip      -                  |
|  UTM Zone 17 East  424.21 North  2945.70 Latitude 26:37:54 Longitude 81:45:41|
+-------------------------------------------------------------------------------+
| Status C CONSTRUCTION          Maj Group SIC 49 ELECTRIC, GAS AND SANITARY S  |
|  Reloc    Shtdwn Dt            Strt Dt            Final Shtdwn Dt             |
|Gov Fac 0 NOT OWNED OR OPERATED BY A FED HAZ Waste Generator ID: FLD           |
|AOR Req Y   Ozone SIP Facility N    Type   3 MUNICIPAL INCINERATION OR RRF     |
|Compliance Tracking A  ACTUAL OR POTENTIAL EMISSION One Time Title V Credit N  |
|Title V TITLE V       non-HAP Class EPA MAJOR      HAP Class                   |
+-------------------------------------------------------------------------------+
| # of Emis Units    C   4     A   0     I   0  Generator Rating             MW|
+-------------------------------------------------------------------------------+
| Comment BUCKINGHAM ROAD & SR 82 INCINERATOR BURNS MSW                         |
+-------------------------------------------------------------------------------+
Enter the Type of this FACILITY. (POINT or AREA)
Count: *1                                                          <Replace>
```

History | **Fugitive** | **Poten Emis** | Capped EU | **Return** | **eXit**

Facility Pollutant

POINT AIRS ID 0710119 OFFICE SD Sth: FT MYERS
NAME LEE COUNTY ENERGY RECOVERY FA COUNTY LEE
OWNER LEE COUNTY

Pollutant CO Carbon Monoxide
Poll Class B ACTUAL AND POTENTIAL EMISSIONS BELOW ALL APPLICABLE MAJOR SOURCE THRESHOLDS

Emission CAP Basis Regulation Comment	Pounds/Hr	Tons/Yr
Act Emis Year1996	Actual Emission	46.740000Tons/Yr
Potential Sum	0.000000Tons/Yr HAP Pot SubTotal	0.000000Tons/Yr

Enter Pollutant Code
Count: 1 v <List><Replace>

History | **Fugitive** | **Poten Emis** | Capped EU | **Return** | **eXit**

Facility Pollutant

POINT AIRS ID 0710119 OFFICE SD Sth: FT MYERS
NAME LEE COUNTY ENERGY RECOVERY FA COUNTY LEE
OWNER LEE COUNTY

Pollutant FL Fluorides - Total (elemental fluorine and floride com
Poll Class B ACTUAL AND POTENTIAL EMISSIONS BELOW ALL APPLICABLE MAJOR SOURCE THRESHOLDS

Emission CAP	Pounds/Hr	Tons/Yr
Basis		
Regulation		
Comment		
Act Emis Year1996	Actual Emission	0.130000Tons/Yr
Potential Sum	0.000000Tons/Yr HAP Pot SubTotal	0.000000Tons/Yr

Enter Pollutant Code
Count: 3 ^ v <List><Replace>

History | **Fugitive** | **Poten Emis** | Capped EU | **Return** | **eXit**

Facility Pollutant

POINT AIRS ID 0710119 OFFICE SD Sth: FT MYERS
NAME LEE COUNTY ENERGY RECOVERY FA COUNTY LEE
OWNER LEE COUNTY

Pollutant PM Particulate Matter - Total
Poll Class B ACTUAL AND POTENTIAL EMISSIONS BELOW ALL APPLICABLE MAJOR SOURCE THRESHOLDS

Emission CAP	Pounds/Hr	Tons/Yr
Basis		
Regulation		
Comment		

Act Emis Year1996		Actual Emission	4.886000Tons/Yr
Potential Sum	0.000000Tons/Yr	HAP Pot SubTotal	0.000000Tons/Yr

Enter Pollutant Code
Count: 10 ^ v <List><Replace>

History | **Fugitive** | **Poten Emis** | Capped EU | **Return** | **eXit**

Facility Pollutant

POINT AIRS ID 0710119 OFFICE SD Sth: FT MYERS
NAME LEE COUNTY ENERGY RECOVERY FA COUNTY LEE
OWNER LEE COUNTY

Pollutant PM10 Particulate Matter - PM10
Poll Class B ACTUAL AND POTENTIAL EMISSIONS BELOW ALL APPLICABLE MAJOR SOURCE THRESHOLDS

Emission CAP	Pounds/Hr	Tons/Yr
Basis		
Regulation		
Comment		

Act Emis Year1996		Actual Emission	2.710000Tons/Yr
Potential Sum	0.000000Tons/Yr	HAP Pot SubTotal	0.000000Tons/Yr

Enter Pollutant Code
Count: 11 ^ v <List><Replace>

History | **Fugitive** | **Poten Emis** | Capped EU | **Return** | **eXit**

Facility Pollutant

POINT AIRS ID 0710119 OFFICE SD Sth: FT MYERS
NAME LEE COUNTY ENERGY RECOVERY FA COUNTY LEE
OWNER LEE COUNTY

Pollutant SAM Sulfuric Acid Mist
Poll Class B ACTUAL AND POTENTIAL EMISSIONS BELOW ALL APPLICABLE MAJOR SOURCE THRESHOLDS

Emission CAP Basis Regulation Comment	Pounds/Hr	Tons/Yr
Act Emis Year1996	Actual Emission	3.680000Tons/Yr
Potential Sum	0.000000Tons/Yr HAP Pot SubTotal	0.000000Tons/Yr

$\times 3 \cong 13$ TPY $\div 4/3 \cong 10$

Enter Pollutant Code
Count: 12 ^ v <List><Replace>

History | **Fugitive** | **Poten Emis** | Capped EU | **Return** | **eXit**

---------- Facility Pollutant ----------

POINT AIRS ID 0710119 OFFICE SD Sth: FT MYERS
NAME LEE COUNTY ENERGY RECOVERY FA COUNTY LEE
OWNER LEE COUNTY

Pollutant VOC Volatile Organic Compounds
Poll Class B ACTUAL AND POTENTIAL EMISSIONS BELOW ALL APPLICABLE MAJOR SOURCE THRESHOLDS

Emission CAP Basis Regulation Comment	Pounds/Hr	Tons/Yr
Act Emis Year1996	Actual Emission	4.555000Tons/Yr
Potential Sum	0.000000Tons/Yr HAP Pot SubTotal	0.000000Tons/Yr

$\gamma 3 = 15 \times 2/3$

Enter Pollutant Code
Count: *15 ^ <List><Replace>

History | **Fugitive** | **Poten Emis** | Capped EU | **Return** | **eXit**

Facility Pollutant

POINT AIRS ID 0710119 OFFICE SD Sth: FT MYERS
NAME LEE COUNTY ENERGY RECOVERY FA COUNTY LEE
OWNER LEE COUNTY

Pollutant T006 Ammonia
Poll Class B ACTUAL AND POTENTIAL EMISSIONS BELOW ALL APPLICABLE MAJOR SOURCE THRESHOLDS

Emission CAP Basis Regulation Comment	Pounds/Hr	Tons/Yr
Act Emis Year1996	Actual Emission	2.090000Tons/Yr
Potential Sum	0.000000Tons/Yr HAP Pot SubTotal	0.000000Tons/Yr

Enter Pollutant Code
Count: *15 ^ v <List><Replace>

History | Fugitive | Poten Emis | Capped EU | Return | eXit

Facility Pollutant

POINT AIRS ID 0710119	OFFICE SD Sth: FT MYERS
NAME LEE COUNTY ENERGY RECOVERY FA	COUNTY LEE
OWNER LEE COUNTY	

Pollutant H015 Arsenic Compounds (inorganic including arsine)
Poll Class C CLASS IS UNKNOWN

Emission CAP	Pounds/Hr	Tons/Yr
Basis		
Regulation		
Comment		
Act Emis Year1996	Actual Emission	0.000266Tons/Yr
Potential Sum	0.000000Tons/Yr HAP Pot SubTotal	0.000000Tons/Yr

Enter Pollutant Code
Count: *15 ^ v <List><Replace>

```
 Allowable | poll Test |  test Meth |  History |  Return |  eXit
------------------------   Emission Unit Pollutant   -------------------------
+-------------------------------------------------------------------------------+
|   POINT AIRS ID 0710119   OFFICE SD    Sth: FT MYERS                          |
|    NAME LEE COUNTY ENERGY RECOVERY FA  COUNTY LEE                             |
|   OWNER LEE COUNTY                                                            |
+-------------------------------------------------------------------------------+
| EU ID 001  Desc UNIT #1 MUNICIPAL SOLID WASTE COMBUSTOR                       |
+-------------------------------------------------------------------------------+
|   Pollutant CO        Carbon Monoxide                                         |
|      Status A ACTIVE                  # Allow 001  % Control Efficiency       |
|    Pri Cont                             Sec Cont                              |
|   Reg Class                                                                   |
+-------------------------------------------------------------------------------+
| Potential Emission              Lb/Hr                    Ton/Yr  Synth Ltd    |
|    Emission Method                                                            |
|    Emission Factor               Act Emis      23.970000Tons/Yr   Year 1996  |
|               Unit                        Emis Fac Ref                        |
|   Emis Calculation                                                            |
| Est Fugitive Lower                    Upper              Tons/Yr              |
|  Pollutant Comment 100 PPMDV @ 7% O2                                          |
+-------------------------------------------------------------------------------+
Enter Pollutant Code
Count: *1                                                  <List><Replace>
```

```
 Allowable |  poll Test |  test Meth |  History |  Return |  eXit
-------------------------   Emission Unit Pollutant   -------------------------
+-------------------------------------------------------------------------------+
|   POINT AIRS ID 0710119   OFFICE SD    Sth: FT MYERS                          |
|    NAME LEE COUNTY ENERGY RECOVERY FA  COUNTY LEE                             |
|   OWNER LEE COUNTY                                                            |
+-------------------------------------------------------------------------------+
| EU ID 001  Desc UNIT #1 MUNICIPAL SOLID WASTE COMBUSTOR                       |
+-------------------------------------------------------------------------------+
|   Pollutant PM        Particulate Matter - Total                              |
|      Status A ACTIVE                 # Allow 002  % Control Efficiency       |
|    Pri Cont                             Sec Cont                              |
|   Reg Class                                                                   |
+-------------------------------------------------------------------------------+
| Potential Emission              Lb/Hr                    Ton/Yr  Synth Ltd    |
|    Emission Method                                                            |
|    Emission Factor               Act Emis       0.970000Tons/Yr   Year 1996 |
|                Unit                        Emis Fac Ref                       |
|   Emis Calculation                                                            |
| Est Fugitive Lower                   Upper            Tons/Yr                 |
|  Pollutant Comment                                                            |
+-------------------------------------------------------------------------------+
Enter Pollutant Code
Count: *1                                                  <List><Replace>
```

```
 Allowable | poll Test |  test Meth |  History |  Return |  eXit
-------------------------   Emission Unit Pollutant   -------------------------
+-------------------------------------------------------------------------------+
|   POINT AIRS ID 0710119   OFFICE SD    Sth: FT MYERS                          |
|    NAME LEE COUNTY ENERGY RECOVERY FA  COUNTY LEE                             |
|   OWNER LEE COUNTY                                                            |
+-------------------------------------------------------------------------------+
| EU ID 001  Desc UNIT #1 MUNICIPAL SOLID WASTE COMBUSTOR                       |
+-------------------------------------------------------------------------------+
|   Pollutant PM10      Particulate Matter - PM10                               |
|      Status A ACTIVE                # Allow 001  % Control Efficiency         |
|    Pri Cont                            Sec Cont                               |
|   Reg Class                                                                   |
+-------------------------------------------------------------------------------+
| Potential Emission              Lb/Hr                    Ton/Yr  Synth Ltd    |
|    Emission Method                                                            |
|    Emission Factor               Act Emis       1.195000Tons/Yr   Year 1996 |
|               Unit                        Emis Fac Ref                        |
|   Emis Calculation                                                            |
| Est Fugitive Lower                   Upper            Tons/Yr                 |
|  Pollutant Comment                                                            |
+-------------------------------------------------------------------------------+
Enter Pollutant Code
Count: *1                                                  <List><Replace>
```

```
 Allowable |  poll Test |  test Meth |  History |  Return |  eXit
-------------------------   Emission Unit Pollutant   --------------------------
+-------------------------------------------------------------------------------+
|   POINT AIRS ID 0710119   OFFICE SD    Sth: FT MYERS                          |
|    NAME LEE COUNTY ENERGY RECOVERY FA  COUNTY LEE                             |
|   OWNER LEE COUNTY                                                            |
+-------------------------------------------------------------------------------+
| EU ID 001  Desc UNIT #1 MUNICIPAL SOLID WASTE COMBUSTOR                       |
+-------------------------------------------------------------------------------+
|   Pollutant SAM       Sulfuric Acid Mist                                      |
|      Status A ACTIVE                 # Allow 001  % Control Efficiency        |
|    Pri Cont                             Sec Cont                              |
|   Reg Class                                                                   |
+-------------------------------------------------------------------------------+
| Potential Emission                Lb/Hr                    Ton/Yr  Synth Ltd  |
|    Emission Method                                                            |
|    Emission Factor                 Act Emis       1.500000Tons/Yr   Year 1996 |
|               Unit                          Emis Fac Ref                      |
|   Emis Calculation                                                            |
| Est Fugitive Lower                     Upper             Tons/Yr              |
|  Pollutant Comment                                                            |
+-------------------------------------------------------------------------------+
Enter Pollutant Code
Count: *1                                                  <List><Replace>
```

```
 Allowable | poll Test |  test Meth |  History |  Return |  eXit
 ------------------------   Emission Unit Pollutant   -------------------------
+-------------------------------------------------------------------------------+
|   POINT AIRS ID 0710119   OFFICE SD    Sth: FT MYERS                          |
|    NAME LEE COUNTY ENERGY RECOVERY FA  COUNTY LEE                             |
|   OWNER LEE COUNTY                                                            |
+-------------------------------------------------------------------------------+
| EU ID 001  Desc UNIT #1 MUNICIPAL SOLID WASTE COMBUSTOR                       |
+-------------------------------------------------------------------------------+
|   Pollutant SAM       Sulfuric Acid Mist                                      |
|      Status A ACTIVE                 # Allow 001  % Control Efficiency        |
|    Pri Cont                             Sec Cont                              |
|   Reg Class                                                                   |
+-------------------------------------------------------------------------------+
| Potential Emission              Lb/Hr                    Ton/Yr  Synth Ltd    |
|    Emission Method                                                            |
|    Emission Factor               Act Emis       1.500000Tons/Yr   Year 1996 |
|               Unit                        Emis Fac Ref                        |
|   Emis Calculation                                                            |
| Est Fugitive Lower                   Upper            Tons/Yr                 |
|  Pollutant Comment                                                            |
+-------------------------------------------------------------------------------+
Enter Pollutant Code
Count: *1                                                  <List><Replace>
```

```
 Allowable |  poll Test |  test Meth |  History |  Return |  eXit
-------------------------   Emission Unit Pollutant   -------------------------
+-------------------------------------------------------------------------------+
|   POINT AIRS ID 0710119   OFFICE SD    Sth: FT MYERS                          |
|    NAME LEE COUNTY ENERGY RECOVERY FA  COUNTY LEE                             |
|   OWNER LEE COUNTY                                                            |
+-------------------------------------------------------------------------------+
| EU ID 001  Desc UNIT #1 MUNICIPAL SOLID WASTE COMBUSTOR                       |
+-------------------------------------------------------------------------------+
|   Pollutant VOC       Volatile Organic Compounds                              |
|      Status A ACTIVE                 # Allow 001  % Control Efficiency        |
|    Pri Cont                             Sec Cont                              |
|   Reg Class                                                                   |
+-------------------------------------------------------------------------------+
| Potential Emission              Lb/Hr                    Ton/Yr  Synth Ltd    |
|    Emission Method                                                            |
|    Emission Factor              Act Emis       2.280000Tons/Yr   Year 1996    |
|               Unit                        Emis Fac Ref                        |
|   Emis Calculation                                                            |
| Est Fugitive Lower                   Upper              Tons/Yr               |
|  Pollutant Comment                                                            |
+-------------------------------------------------------------------------------+
Enter Pollutant Code
Count: *1                                                  <List><Replace>
```

```
 Allowable | poll Test |  test Meth |  History |  Return |  eXit
-------------------------   Emission Unit Pollutant   -------------------------
+-----------------------------------------------------------------------------+
|   POINT AIRS ID 0710119   OFFICE SD    Sth: FT MYERS                        |
|    NAME LEE COUNTY ENERGY RECOVERY FA  COUNTY LEE                           |
|   OWNER LEE COUNTY                                                          |
+-----------------------------------------------------------------------------+
| EU ID 002  Desc UNIT #2 MUNICIPAL SOLID WASTE COMBUSTOR                     |
+-----------------------------------------------------------------------------+
|   Pollutant CO        Carbon Monoxide                                       |
|      Status A ACTIVE                  # Allow 001  % Control Efficiency     |
|    Pri Cont                             Sec Cont                            |
|   Reg Class                                                                 |
+-----------------------------------------------------------------------------+
| Potential Emission              Lb/Hr                    Ton/Yr  Synth Ltd  |
|    Emission Method                                                          |
|    Emission Factor               Act Emis      22.770000Tons/Yr   Year 1996 |
|               Unit                        Emis Fac Ref                      |
|   Emis Calculation                                                          |
| Est Fugitive Lower                   Upper              Tons/Yr             |
|  Pollutant Comment                                                          |
+-----------------------------------------------------------------------------+
Enter Pollutant Code
Count: *1                                                  <List><Replace>
```

```
 Allowable |  poll Test |  test Meth |  History |  Return |  eXit
-------------------------   Emission Unit Pollutant   -------------------------
+-------------------------------------------------------------------------------+
|   POINT AIRS ID 0710119   OFFICE SD    Sth: FT MYERS                          |
|    NAME LEE COUNTY ENERGY RECOVERY FA  COUNTY LEE                             |
|   OWNER LEE COUNTY                                                            |
+-------------------------------------------------------------------------------+
| EU ID 002  Desc UNIT #2 MUNICIPAL SOLID WASTE COMBUSTOR                       |
+-------------------------------------------------------------------------------+
|   Pollutant FL        Fluorides - Total (elemental fluorine and floride comp  |
|      Status A ACTIVE                # Allow 001  % Control Efficiency        |
|    Pri Cont                            Sec Cont                               |
|   Reg Class                                                                   |
+-------------------------------------------------------------------------------+
| Potential Emission                Lb/Hr                    Ton/Yr  Synth Ltd  |
|    Emission Method                                                            |
|    Emission Factor                 Act Emis       0.030000Tons/Yr   Year 1996 |
|               Unit                          Emis Fac Ref                      |
|   Emis Calculation                                                            |
| Est Fugitive Lower                      Upper             Tons/Yr             |
|  Pollutant Comment                                                            |
+-------------------------------------------------------------------------------+
Enter Pollutant Code
Count: *1                                                  <List><Replace>
```

```
 Allowable |  poll Test |  test Meth |  History |  Return |  eXit
 -------------------------   Emission Unit Pollutant   -------------------------
+-------------------------------------------------------------------------------+
|   POINT AIRS ID 0710119   OFFICE SD    Sth: FT MYERS                          |
|    NAME LEE COUNTY ENERGY RECOVERY FA  COUNTY LEE                             |
|   OWNER LEE COUNTY                                                            |
+-------------------------------------------------------------------------------+
| EU ID 002  Desc UNIT #2 MUNICIPAL SOLID WASTE COMBUSTOR                       |
+-------------------------------------------------------------------------------+
|   Pollutant PM        Particulate Matter - Total                              |
|      Status A ACTIVE                # Allow 002  % Control Efficiency         |
|    Pri Cont                            Sec Cont                               |
|   Reg Class                                                                   |
+-------------------------------------------------------------------------------+
| Potential Emission              Lb/Hr                    Ton/Yr  Synth Ltd    |
|    Emission Method                                                            |
|    Emission Factor               Act Emis       3.780000Tons/Yr   Year 1996 |
|               Unit                          Emis Fac Ref                      |
|   Emis Calculation                                                            |
| Est Fugitive Lower                   Upper              Tons/Yr               |
|  Pollutant Comment                                                            |
+-------------------------------------------------------------------------------+
Enter Pollutant Code
Count: *1                                                  <List><Replace>
```

Query all | Add a poll | Return | eXit

Emission Unit Pollutant

POINT AIRS ID 0710119 OFFICE SD Sth: FT MYERS
NAME LEE COUNTY ENERGY RECOVERY FA COUNTY LEE
OWNER LEE COUNTY

EU NO. 002 Desc **UNIT #2 MUNICIPAL SOLID WASTE COMBUSTOR**

Pollutant		Status
FL	Fluorides - Total (elemental fluorine and fl	A ACTIVE
H015	Arsenic Compounds (inorganic including arsin	A ACTIVE
H021	Beryllium Compounds	A ACTIVE
H106	Hydrogen chloride (Hydrochloric acid)	A ACTIVE
H114	Mercury Compounds	A ACTIVE
NOX	Nitrogen Oxides	A ACTIVE
PB	Lead - Total (elemental lead and lead compou	A ACTIVE
PM	Particulate Matter - Total	A ACTIVE
PM10	Particulate Matter - PM10	A ACTIVE
SAM	**Sulfuric Acid Mist**	**A ACTIVE**

Pollutant Code
Count: 12 ^ v <Replace>

Query all | Add a poll | Return | eXit

Emission Unit Pollutant

POINT AIRS ID 0710119 OFFICE SD Sth: FT MYERS
NAME LEE COUNTY ENERGY RECOVERY FA COUNTY LEE
OWNER LEE COUNTY

EU NO. 002 Desc **UNIT #2 MUNICIPAL SOLID WASTE COMBUSTOR**

Pollutant		Status
DIOX	Dioxin/Furan	A ACTIVE
FL	Fluorides - Total (elemental fluorine and fl	A ACTIVE
H015	Arsenic Compounds (inorganic including arsin	A ACTIVE
H021	Beryllium Compounds	A ACTIVE
H106	Hydrogen chloride (Hydrochloric acid)	A ACTIVE
H114	Mercury Compounds	A ACTIVE
NOX	Nitrogen Oxides	A ACTIVE
PB	Lead - Total (elemental lead and lead compou	A ACTIVE
PM	Particulate Matter - Total	A ACTIVE
PM10	**Particulate Matter - PM10**	**A ACTIVE**

Pollutant Code
Count: 11 ^ v <Replace>

```
 Allowable |  poll Test |  test Meth |  History |  Return |  eXit
-------------------------   Emission Unit Pollutant   -------------------------
+-----------------------------------------------------------------------------+
|   POINT AIRS ID 0710119   OFFICE SD    Sth: FT MYERS                        |
|    NAME LEE COUNTY ENERGY RECOVERY FA  COUNTY LEE                           |
|   OWNER LEE COUNTY                                                          |
+-----------------------------------------------------------------------------+
| EU ID 002  Desc UNIT #2 MUNICIPAL SOLID WASTE COMBUSTOR                     |
+-----------------------------------------------------------------------------+
|   Pollutant VOC       Volatile Organic Compounds                            |
|      Status A ACTIVE                # Allow 001  % Control Efficiency       |
|    Pri Cont                            Sec Cont                             |
|   Reg Class                                                                 |
+-----------------------------------------------------------------------------+
| Potential Emission              Lb/Hr                    Ton/Yr  Synth Ltd  |
|    Emission Method                                                          |
|    Emission Factor               Act Emis       2.275000Tons/Yr   Year 1996 |
|               Unit                          Emis Fac Ref                    |
|   Emis Calculation                                                          |
| Est Fugitive Lower                   Upper              Tons/Yr             |
|  Pollutant Comment                                                          |
+-----------------------------------------------------------------------------+
Enter Pollutant Code
Count: *1                                                  <List><Replace>
```

History | Fugitive | Poten Emis | Capped EU | Return | eXit

Facility Pollutant

POINT AIRS ID 1010056 OFFICE SWD SW: TAMPA
NAME PASCO COUNTY RESOURCE RECOVER COUNTY PASCO
OWNER PASCO COUNTY (OWNER)

Pollutant PM Particulate Matter - Total
Poll Class A ACTUAL OR POTENTIAL EMISSIONS ARE ABOVE THE APPLICABLE MAJOR SOURCE THRESHOLDS.

Emission CAP	Pounds/Hr	Tons/Yr
Basis		
Regulation		
Comment		
Act Emis Year1996	Actual Emission	3.072770Tons/Yr
Potential Sum	61.729900Tons/Yr HAP Pot SubTotal	2.762100Tons/Yr

X 4 ≅ 13 TPY

Enter Pollutant Code
Count: 7 ^ v <List><Replace>

History | Fugitive | Poten Emis | Capped EU | Return | eXit

Facility Pollutant

POINT AIRS ID 1010056	OFFICE SWD SW: TAMPA
NAME PASCO COUNTY RESOURCE RECOVER	COUNTY PASCO
OWNER PASCO COUNTY (OWNER)	

Pollutant PM10	Particulate Matter - PM10		
Poll Class B	ACTUAL AND POTENTIAL EMISSIONS BELOW ALL APPLICABLE MAJOR SOURCE THRESHOLDS		
Emission CAP	Pounds/Hr		Tons/Yr
Basis			
Regulation			
Comment			
Act Emis Year1996		Actual Emission	3.072770Tons/Yr
Potential Sum	0.000000Tons/Yr	HAP Pot SubTotal	2.762100Tons/Yr

Enter Pollutant Code

Count: 8 ^ v <List><Replace>

History | Fugitive | Poten Emis | Capped EU | Return | eXit

Facility Pollutant

POINT AIRS ID 1010056 OFFICE SWD SW: TAMPA
NAME PASCO COUNTY RESOURCE RECOVER COUNTY PASCO
OWNER PASCO COUNTY (OWNER)

Pollutant FL Fluorides - Total (elemental fluorine and floride com
Poll Class B ACTUAL AND POTENTIAL EMISSIONS BELOW ALL APPLICABLE MAJOR SOURCE THRESHOLDS

Emission CAP Basis Regulation Comment	Pounds/Hr	Tons/Yr
Act Emis Year1996	Actual Emission	0.259000Tons/Yr
Potential Sum	14.400000Tons/Yr HAP Pot SubTotal	2.762100Tons/Yr

× 4 ≅ 1 TPY

Enter Pollutant Code
Count: 2 ^ v <List><Replace>

History | **Fugitive** | **Poten Emis** | Capped EU | **Return** | **eXit**

Facility Pollutant

POINT AIRS ID 1010056 OFFICE SWD SW: TAMPA
NAME PASCO COUNTY RESOURCE RECOVER COUNTY PASCO
OWNER PASCO COUNTY (OWNER)

Pollutant CO Carbon Monoxide
Poll Class A ACTUAL OR POTENTIAL EMISSIONS ARE ABOVE THE APPLICABLE MAJOR SOURCE THRESHOLDS.

Emission CAP	Pounds/Hr	Tons/Yr
Basis		
Regulation		
Comment		
Act Emis Year1996	Actual Emission	19.060000Tons/Yr
Potential Sum	180.270000Tons/Yr HAP Pot SubTotal	2.762100Tons/Yr

$\times 4 \cong 80$ TPY

Enter Pollutant Code
Count: 1 v <List><Replace>

History | **Fugitive** | **Poten Emis** | Capped EU | **Return** | **eXit**

Facility Pollutant

POINT AIRS ID 1010056 OFFICE SWD SW: TAMPA
NAME PASCO COUNTY RESOURCE RECOVER COUNTY PASCO
OWNER PASCO COUNTY (OWNER)

Pollutant SAM Sulfuric Acid Mist
Poll Class A ACTUAL OR POTENTIAL EMISSIONS ARE ABOVE THE APPLICABLE MAJOR SOURCE THRESHOLDS.

Emission CAP	Pounds/Hr	Tons/Yr
Basis		
Regulation		
Comment		
Act Emis Year1996	Actual Emission	0.000000Tons/Yr
Potential Sum	66.000000Tons/Yr HAP Pot SubTotal	2.762100Tons/Yr

Enter Pollutant Code
Count: 9 ^ v <List><Replace>