



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION IV

345 COURTLAND STREET
ATLANTA, GEORGIA 30365

AUG 5 1986

DER

4APT-AP/lms

AUG 7 1986

BAQM

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

RE: Pinellas County Resource Recovery Facility - Unit 3
PSD-FL-098

Dear Mr. Fancy:

This is to acknowledge receipt of your June 12, 1986, PSD preliminary determination for the above referenced facility located near Clearwater, Florida. We have given the determination a thorough review and are providing you with a copy of the detailed emissions analysis (enclosed) in support to the following comments (verbally communicated to Mr. Ed Svec the week of July 14, 1986).

1. The pollutants beryllium, sulfuric acid mist, and volatile organic compounds (VOC) will be emitted in less than significant amounts (0.00014 TPY, 2.68 TPY, and 26.8 TPY respectively). The emission rate of beryllium is dependent upon the particulate control efficiency (99% per application). Therefore, the emission rate for beryllium should remain in the permit or ESP control efficiency provisions should be stipulated. Emission rates for VOC and sulfuric acid mist emissions are not necessary. Compliance with the carbon monoxide emissions will reasonably ensure minimization of emissions of VOC's and emissions of sulfuric acid mist are not expected to exceed 0.5% of the sulfur dioxide emissions.

2. The emission rates for hydrogen fluoride and mercury are within the range of acceptability in comparison with our assessment using the best available emission factors from the reported references in the attachment.

3. Emission rates for nitrogen oxides and sulfur dioxide in the permit appear to be high in comparison with documented emission rates from the application and the two incinerator reference documents. The actual test data for sulfur dioxide from Pinellas County Units 1 and 2 are reported to be 1.9 lbs per ton and nitrogen oxide emissions from the reference documents used in our analysis are reported to be from 3-4.9 lbs per ton of MSW fired. This data indicates that perhaps more stringent emission limits may be appropriate.

4. Carbon monoxide emission rates appear to be low in comparison to reference document rates of 9-21 lbs per ton of MSW waste fired. Has the applicant given assurances of being able to meet the 1.8 lb per ton emissions limit?

5. The applicant bases the control of particulate matter on an uncontrolled emission rate of 60 lbs per ton of MSW fired. This equates to a grain loading to the precipitator of 3 gr/dscf. The guaranteed emission rate is 0.03 gr/dscf with a 99% control efficiency. In retrospect, actual test data from the Pinellas County ESP outlet 1 indicate that much lower emission rates are achieved. The average of the eight (8) highest of fifteen (15) tests gives an emission rate of 0.02 gr/dscf. Based on actual test data, we feel this emission rate is more suitable and representative of BACT.

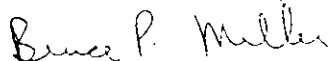
6. The proposed lead emissions rate from Unit 3 is excessive in comparison with the actual test data from the Pinellas County ESP outlet 1 and the references used in our analysis. Based on actual test data from the facility, the highest percentage of lead emissions from the highest eight particulate emission rates used in the above analysis is 5%. This equates to approximately 0.03 lbs of lead per ton of MSW fired and agrees with the reported values in the reference documents. We are therefore proposing that the maximum emission rate for lead be set at 1.31 lbs per hour.

7. Please verify if UNAMAP (4) or UNAMAP (5) was used in the modeling analyses. IF UNAMAP (4) was updated to make it equivalent to UNAMAP (5), a demonstration using UNAMAP (5) must be made to demonstrate the equivalency.

8. In accordance with a meeting held in Atlanta with the representatives of Pinellas County and Florida Department of Environmental Regulation on June 19, 1986, we are still anticipating updated lead and sulfur dioxide ambient monitoring data from the closest monitors. Has this information been submitted to FDER? If so, please forward a copy to this office for review.

If you have any questions or comments regarding this letter, please contact Mr. Roger Pfaff, of my staff, at (404) 347-4253.

Sincerely yours,



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

Enclosure

ATTACHMENT

EMISSIONS ASSESSMENT FOR PINELLAS COUNTY
RESOURCE RECOVERY FACILITY - UNIT 3

PARTICULATES

gr/dscf	% lead in flyash (15 test runs -Reference 3)	
.001	13.9, 8.6	
.002	8.1, 8.3	Average eight (8) highest values
.003	5.4, 4.5, 2.5	0.019 gr/dscf
.004	5.0, 3.0	Highest lead % of above
.005	2.5	5.0%
.01	1.8	
.02	1.6, 4.8	
.03	0.6	
.04	0.8	

UNCONTROLLED EMISSIONS

Average 6.9 lb/mmBTU (Reference 2)
4500 BTU/lb MSW = 9 mmBTU/ton
63 lbs/ton MSW

PROPOSED UNCONTROLLED EMISSION RATE

60 lbs/ton MSW (Application)

SULFUR DIOXIDE

Uncontrolled Emission Rate

1.9 lbs/ton MSW (application reference to actual test data)
3.9 lbs/ton MSW (Reference 1, Page V-50)
1.8 lbs/ton MSW 0.2 lbs/mmBTU MSW - average (Reference 2, page 112)

NITROGEN OXIDES

4.39 lbs/ton MSW (Reference 1, Page V-47, Equation 16)
1.35 lbs/ton MSW 0.15 lbs/mmBTU - average (Reference 2, page 81)

LEAD

0.032 lbs/ton MSW (Reference 1, Page V-56)
0.032 lbs/ton MSW, 3.52×10^2 lb/ mmBTU - 90% control
(Reference 2, Page 196)
0.028 lbs/ton MSW, See below (Reference 3 and Application)
0.03 gr/dscf x 96,979 dscf/min x 60 min/hr x lb/7000gc x

$$\frac{24 \text{ hour}}{1050 \text{ tons MSW}} \times 5\% = .028 \text{ lb/ton MSW}$$

HYDROGEN FLUORIDE

0.03 lbs/ton MSW, .003 lb/mmBTU (Reference 2, page 114)
0.0002 - 0.2 lbs/ton MSW (Reference 1, Page V-56,
Table V-16)
0.1 lbs/ton MSW (application)

BERYLLIUM

Uncontrolled

5.58×10^{-5} lbs/ton MSW, 6.2×10^{-6} lbs/mmBTU (Reference 2,
Page 196)

Particulate Size Distribution

70% > 4um, 20% 1-4um, 10% < 1um

Respective Control by ESP

99%, 98%, 92%

Controlled

7.59×10^{-7} lbs/ton MSW controlled =

$$5.58 \times 10^{-5} (.7)(.01) + 5.58 \times 10^{-5} (.2)(.02) +$$
$$5.58 \times 10^{-5} (.1)(.08)$$

SULFURIC ACID MIST

0.014 lbs/ton MSW, Below (Reference 1, Page VII-18,
Table VII - 6)

50 ppmv measured concentration, 3 incinerators

$50 \times 10^6 (96,979) 60 = 291 \text{ dscf/hr}$

Specific gravity of H_2SO_4 , 25°C , 100% = 1.83

Specific volume of water vapor, 25°C = 868.4 cu.ft./lb
or 0.00115 lbs/cu.ft.

$0.00115 \times 1.83 \times 291 = 0.613 \text{ lbs/hr H}_2\text{SO}_4$

$0.613 \times 24 = 0.014 \text{ lbs/ton MSW}$
 $\frac{\quad}{1050}$

MERCURY

0.0033 lbs/ton MSW, average, 157 ug/MJ (Reference 2,
page 192)

0.008 lbs/ton MSW, high value, 390 ug/MJ (Reference 2,
page 192)

$.0033 \text{ lbs/ton} \times 44\text{g/lb} \times 1050 \text{ ton/day} = 1573 \text{ g/day}$

$.008 \text{ lbs/ton} \times 454 \text{ g/lb} \times 1050 \text{ ton/day} = 3813 \text{ g/day}$

CARBON MONOXIDE

20.6 lbs/ton MSW (Reference 1, page V-59, Table V-17)

9 lbs/ton MSW (Reference 2, page 174)

VOC

0.14 lbs/ton (Hemstead Facility - Dade County RRF)

REFERENCES

1. Systems Study of Air Pollution from Municipal Incinerators
March 1970, A.D. Little, Inc.
2. California Air Resources Board of Incinerator Report
May 24, 1984.
3. Multiple Parameter Emissions Survey - Pinellas County Resource
Recovery Plant - June 1984.

THOMAS W. REESE
ATTORNEY AT LAW
123 EIGHTH STREET NORTH
ST. PETERSBURG, FLORIDA 33701

(813) 822-4084

June 2, 1986

*File -
Pinellas County
Unit 3 permit
File*

Steve Smallwood
Department of Environmental Regulation
2600 Blair Stone Road
Tallahassee, Florida 32301

RE: Pinellas County Resource Recovery Plant #3
PSD Air Permit

Dear Steve:

I represent the Meadowlawn Civic Association and make these comments on their behalf. The Meadowlawn Civic Association is composed of residents of St. Petersburg who live approximately one mile to the south of the Pinellas County Resource Recovery Plant near I-275 and Roosevelt Boulevard.

The Meadowlawn Civic Association requests DER to require Pinellas County as a condition of their PSD air permit to monitor for dioxin, furan and lead emissions. The State of California is still interested in monitoring the Pinellas County facility free of charge for dioxin and furan emissions. The permit should specifically require such monitoring.

Very truly yours,

Thomas W. Reese
Thomas W. Reese

TWR/jmt

cc: Victoria J. Tschinkel
Dr. Richard Garrity
Mark Popp
Fred Marquis

DER

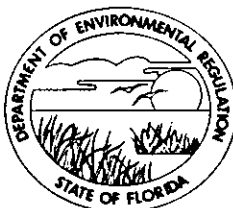
JUN 5 1986

BAQM

STATE OF FLORIDA

DEPARTMENT OF ENVIRONMENTAL REGULATION

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



BOB GRAHAM
GOVERNOR

VICTORIA J. TSCHINKEL
SECRETARY

January 3, 1986

Mr. Robert Van Deman
Director of Solid Waste
Board of County Commissioners
Pinellas County, Florida
315 Court Street
Clearwater, Florida 33516

Dear Mr. Van Deman:

The Department of Environmental Regulation has received your letter of December 13, 1985. The letter is considered to be a re-submission of the application for a PSD permit. Our staff is in process of drafting a federal PSD permit, including the requested modifications, for approval by the EPA.

If you have any questions, please write to me at the above address or call Edward Svec, Review Engineer, at (904)488-1344.

Sincerely,

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

CHF/ES/s

DEPARTMENT OF ENVIRONMENTAL REGULATION

ROUTING AND TRANSMITTAL SLIP

ACTION NO

ACTION DUE DATE

1. TO: (NAME, OFFICE, LOCATION)

Steve Smellwood

Initial

Date

2.

Initial

Date

3.

Initial

Date

4.

Initial

Date

REMARKS:

*Steve,
I called Mr Van Deman
this morning and told him
I would prepare a draft preliminary
determination, BACT and conditions
from the power plant site
certification as approved by
the governor & cabinet and
would incorporate some of the
modifications they requested*

Ed Lee 12/17/85

INFORMATION

Review & Return

Review & File

Initial & Forward

DISPOSITION

Review & Respond

Prepare Response

For My Signature

For Your Signature

Let's Discuss

Set Up Meeting

Investigate & Report

Initial & Forward

Distribute

Concurrence

For Processing

Initial & Return

FROM:

DATE

12/16

PHONE