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July 24, 1985

Dr. Rick Garrity, District Manager
State Department of Environmental Regulation
Southwest District Office
7601 Highway 301, North
Tampa, FL 33610-9544


Re: Emission Test Report - 1985

Dear Dr. Garrity:

Enclosed please find two copies of the annual Air Emissions Test Report for the Pinellas County Refuse to Energy Plant. The report is submitted in compliance with Section XIV.A.3.c of the Conditions of Certification, Case No. 83-2355. The period covered is May 1984 to May 1985.

If you have any questions, please contact me at your convenience.

Sincerely,

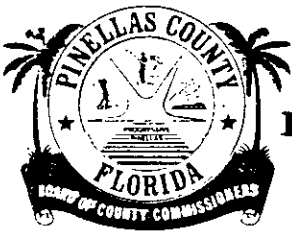

Robert Van Deman, P.E., Director
Solid Waste Management

RVD:rvt
encl.
0132V

cc: ✓ Buck Owen, w/encl.
HDR, w/o encl.
W.W. Dasher, Dir., RW Ops, w/o encl.

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PA 83-18
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BOARD OF COUNTY COMMISSIONERS

Received DER

MAY 9 1985

DEPARTMENT OF SOLID WASTE MANAGEMENT
2800 110TH AVENUE NORTH
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PHONE (813) 825-1565

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May 8, 1985

State of Florida
Department of Environmental Regulation
Twin Towers Office Building
2600 Blair Stone Road
Tallahassee, Florida 32301-8241

Attention: Mr. Hamilton S. Oven, Jr., P.E.

Subject: Air Emissions Modification, Pinellas County RRF

Gentlemen:

Pursuant to our meeting with the Bureau of Air Quality Management in Tallahassee on February 14, 1985, Pinellas County hereby submits proposed amendments and support documentation to the August 17, 1984, letter to the Department. Based on the discussions at the February 14 meeting, it is our understanding that the Best Available Control Technology (BACT) review process is conducted only once for each source and that it was not the Department's intent to designate that the emission limitations determined to be BACT for Unit #3 are also to be applied to existing Units 1 & 2.

Therefore, Pinellas County requests that the existing wording of Section XIV.A.1. of the February 29, 1984, Conditions of Certification (COC) be deleted, and the following text substituted in its place:

1. Emission Limitations upon Operation of Unit 3

a. Emissions from Units 1 or 2 shall not exceed the following:

(1) Particulate matter: in grains per standard cubic foot dry gas corrected to 12% CO₂ - 0.08.

(2) SO₂-170 lbs./hr. each unit

(3) Odor: there shall be no objectionable odor

(4) Visible emissions: stack opacity shall be no greater than 20% except as provided for during start-up, shutdown, or malfunctions when the provisions of 17-2.250, FAC shall apply.

b. Emissions from Unit 3 shall not exceed the following:

(1) Particulate matter: in grains per standard cubic foot dry gas corrected to 12% CO₂ - 0.03.

(2) SO₂-170 lbs./hr.

(3) Nitrogen oxides - 254 lbs./hr.

(4) Carbon monoxide - 66 lbs./hr.

(5) Lead - 4.4 lb./hr.

(6) Mercury - 3200 grams/day when more than 2205 lbs./day of municipal sludge is fired. Compliance shall be determined in accordance with 40 CFR 6.1, Method 101, Appendix B.

(7) Odor - there shall be no objectionable odor

(8) Visible emissions - stack opacity shall be no greater than 20% except as provided for during start-up, shutdown or malfunctions when the provisions of 17-2.250, FAC shall apply.

c. The height of the boiler exhaust stack shall not be less than 161 feet above grade.

d. The incinerator boilers shall not be loaded in excess of their rated capacity of 87,500 pounds of municipal solid waste per hour each.

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

f. Compliance with the limitations for particulates, sulfur oxides, nitrogen oxides, carbon monoxide and lead shall be determined in accordance with Florida Administrative Code Rule 17-2.700, DER Methods 1,2,3,5,6, and 40 CFR 60, Appendix A, Method 7. The stack test shall be performed at +/- 10% of the maximum steam rate of 250,000 pounds per hour.

(END OF PROPOSED WORDING CHANGE)

The rationale for the proposed amendments is as follows:

1. Particulate matter - Unchanged from the February 29, 1984 COC.
2. SO₂ - As Pinellas County has stated on several prior occasions, the concentration of SO₂ in emissions from resource recovery facilities is highly variable. This is due to the wide range in the sulfur content of solid waste, a very heterogeneous material. A compilation of tested stack emissions is presented in Appendix 1. From these data and from the data in the attached California Air Resources Board report (Appendix 2) the following conclusions are reached:
 - A. The median SO₂ emission rate is 3.8 pounds of SO₂ per ton of solid waste.
 - B. The SO₂ emissions exhibit wide deviations from the median.

Based on these conclusions, an emission rate in the median area is proposed. It is proposed that this emission rate be stipulated for all three units. Currently, Units 1 and 2 are permitted at 1.2 pounds of SO₂ per million BTU's (10.8 lbs./Ton @ 4500 BTU/pound). Modeling results at the proposed emission rate are also attached for review (Appendix 3). The results indicate that no significant increase in ambient SO₂ will result from emissions at this level.
3. Nitrogen oxides - As discussed in the August 17 letter, nitrogen oxide emissions are largely the result of boiler operation. Newer, more efficient units, like Pinellas, generate more of these constituents. However, nitrogen oxide emissions do not exhibit the wide deviations as noted with SO₂. Therefore, it is proposed that the nitrogen oxide limit be based on an upper limit if it is to be defined as a "not-to-exceed" value. Appendix 4 features stack test results from four massburn facilities. As shown, 95% of the time, the facilities can attain an emission limit of 5.8 lb./ton (254 lbs./hr. for Pinellas), which is the proposed level for Unit 3.
4. Carbon Monoxide - Unchanged from the February 29, 1984, COC for Unit 3.

Air Emissions Modification

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5. Lead - Lead emissions are largely a function of particulate matter emissions. The attached report by Arthur D. Little, Inc. (Appendix 5) states that approximately 16% of the emitted particulate is in the form of lead. Based on an allowable particulate emission rate of 0.03 g/dscf, the corresponding lead emission is 4.4 lb./hr., which is proposed for Unit 3.
6. Mercury - Unchanged from February 29, 1984, COC for Unit 3.
7. Odor - Unchanged from February 29, 1984, COC for Unit 3.
8. Visible emissions - Opacity is a function of particulate and other gaseous stack emissions. While it is not possible at this time to state what the opacity values will be for Unit 3, the continuous data obtained from Units 1 & 2 indicate that the limitation in the current COC is not consistently attainable (See Appendix 6). Furthermore, opacity and particulate emissions have been compared for Units 1 & 2. Based on this comparison, the opacity at the allowable particulate emission of 0.03 g/dscf will generally be above 10%.

It is requested that the Department consider our request for COC amendment. If you require additional information, please contact this office.

Very truly yours,



Bob Van Deman, P.E., Director
Solid Waste Management

BVD:rvt
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State of Florida
DEPARTMENT OF ENVIRONMENTAL REGULATION

INTEROFFICE MEMORANDUM

| For Routing To District Offices And/Or To Other Than The Addressee | | |
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| Date Due: _____ | Date Due: _____ | |

TO: Clair Fancy, Deputy Bureau Chief, BAQM
FROM: Carol A. Forthman *Carol A. Forthman*
DATE: February 1, 1985
SUBJECT: Pinellas County Resource Recovery Facility

Ed Svec asked me to comment to you on the Department's authority either to enter the facility referenced above to test for certain pollutants, whether regulated or not, or to require the facility to test for those pollutants. My review indicates that the department, under statutory authority may require reports on the "composition and concentration of effluent, and such other information as the department shall prescribe to be filed relative to pollution". Section 403.061(13), Florida Statutes. This general grant of authority would seem to allow the department to require tests that are reasonable to insure that the effluents do not result in discharge to the atmosphere of harmful substances.

In addition, Section V, C., of the Conditions of Certification for the facility permits the department to "... sample any discharge or pollutants". This would permit the department or an authorized representative to conduct the required tests. Therefore, it is my opinion that we have the authority to either require the tests, to conduct them, or to have some authorized representative conduct them for us.

Neither of these grants of authority specify that the pollutants referred to are limited to those regulated by the department. Rather they speak generally to "effluents" and "pollutants".

In addition, the department's general authorizing legislation, Section 403.021, Florida Statutes, states that "the department shall consider the total well-being of the public and shall not consider solely the ambient pollution standards when exercising its powers, if there may be a danger of a public health hazard". 403.021(8), F.S. Therefore, if it is determined that there is the potential for emissions of toxic substances, I

believe that the department's authority, as stated above, would extend to testing for such substances in addition to any regulated pollutants.

Please advise if any further information is needed.

CAF/dw

cc: Steve Smallwood
Ed Svec

State of Florida
DEPARTMENT OF ENVIRONMENTAL REGULATION

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| Date Due: _____ | Date Due: _____ | |

TO: Hamilton S. Oven
THRU: C.H. Fancy *CHF*
THRU: Bill Thomas *BT*
FROM: Edward Svec *ES*
DATE: January 16, 1985
SUBJ: Modification of Conditions of Certification
Pinellas County RRF PA 83-18

The Bureau of Air Quality Management has received and reviewed the request to modify the Conditions of Certification for the Pinellas County Resource Recovery Facility. The Bureau recommends the following actions:

The wording of COC XIV.A.1.e. be changed to the proposed wording submitted by the applicant. The correct test method is EPA Method 5 and there were no tests stipulated for lead or carbon monoxide.

The Bureau agrees to the proposed wording change of COC XIV.A. 3.a. Please note, however, that it should read "Chapter 17-2.710, FAC".

The Bureau does not agree to the proposed changes in the opacity limit, SO₂ limit, NO_x limit, and lead limit at this time. These limits were based on a determination of Best Available Control Technology. In order to change the BACT emission limits, the applicant must demonstrate that the facility and any applicable control device has been properly installed, operated, and maintained. The applicant must also demonstrate the emission limits imposed are beyond the limit of technology by test results. The intent of the Bureau is not to require additional add-on control equipment. We feel these emission limits are obtainable for this facility.

ES/rw