



Interoffice Memorandum

For Routing To Other Than The Addressee

To: _____	Location: _____
To: _____	Location: _____
To: _____	Location: _____
From: _____	Date: _____

TO: Buck Oven

THRU: Larry George *LG*

FROM: Tom Rogers *TR*

DATE: August 31, 1987

SUBJ: Pinellas County (North) Refuse-to-Energy Facility
Background Monitoring

The use of the existing Brooker Creek monitoring site to establish the background air quality at the proposed new facility is satisfactory. The only change which the Bureau would recommend is that PM_{10} be included in the monitoring program along with the other criteria pollutants.

TR/ks



no PM

file copy

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION IV

345 COURTLAND STREET
ATLANTA, GEORGIA 30365

SEP 21 1987

4APT/APB-am

CERTIFIED MAIL
RETURN RECEIPT REQUESTED

Mr. Robert Van Deman, P.E., Director
Pinellas County Department of
Solid Waste Management
2800 110th Avenue North
St. Peterburg, Florida 33702

DER
SEP 28 1987
BAQM

Re: Pinellas County Resource Recovery Facility - Unit 3
(PSD-FL-098)

Dear Mr. Van Deman:

This is in regard to your teleconference with members of my staff on August 28, 1987, in which we agreed to modify certain conditions in the PSD permit issued by EPA on June 9, 1987. The agreed modifications for particulate matter, fluoride, and beryllium emissions appear on the enclosed replacement pages for the permit (pages 1R and 4R) and final determination (pages 3, 4, 6, 18, and 21). These modifications will supersede the corresponding conditions in the original permit and final determination if Pinellas County dismisses its Petition for Administrative Review filed with the Administrator, PSD Appeal No. 87-2, Docket No. PSD-FL-028. Furthermore, it is our understanding that your counsel will promptly prepare a stipulation and order of dismissal to be jointly signed by Pinellas County and EPA. Your modified PSD permit will then become effective upon dismissal of the Petition.

If you have any questions regarding this letter or the enclosures, you may contact me at (404) 347-4727 or Mr. Bruce P. Miller of my staff at (404) 347-2864.

Sincerely yours,

Lee A. DeHihns, III

Lee A. DeHihns, III
Acting Regional Administrator

CAPs Rec'd:

DER

Enclosures

DEC 04 1987

BAQM

cc: Steve Smallwood, Chief
Bureau of Air Quality
Twin Towers Office Building
2600 Blair Stone Road
Tallahassee, Florida 32399-2400

Copied: Pradeep Raval
Jan Roger
Barry O'Driscoll } 12/4/87 (my)
CHF/BT

Maggie -

send copy to

Bill Thomas-Tanga

& Peter Hessly

completed
12/10/97

~~12-4-87~~ } 12-4-87
~~12-4-87~~ } F.I.I.

(4)

DEC

1997

BAQIM

PART I. - Specific Conditions

1. Emission Limitations

a. Stack emissions from Unit 3 shall not exceed the following:

- (1) Particulate: 0.030 grains per dry standard cubic foot (corrected to 12% CO₂).
- (2) Visible Emissions: Opacity of stack emissions shall not be greater than 15% opacity.
- (3) SO₂: 170.0 lbs/hr
- (4) Nitrogen Oxides: 254.0 lbs/hr
- (5) Carbon Monoxide: 66.0 lbs/hr
- (6) Lead: 2.80 lbs/hr
- (7) Flourides: 8.31 lbs/hr
The Agency and the applicant mutually agree that actual test data may demonstrate that a higher emission limit is required. Any request for modification shall be in accordance with the requirements of the Florida PSD regulations (Chap. 17-2.500).
- (8) Beryllium: 9.0×10^{-5} lbs/hr
The Agency and the applicant mutually agree that actual test data may demonstrate that a higher emission limit is required because the unit's emission controls are for particulate (PM) control only, without regard to the composition of the particulate matter. Any request for modification shall be in accordance with the requirements of the Florida PSD regulations (Chap. 17-2.500).
- (9) Mercury: 0.294 lbs/hr when more than 2205 lbs/day of municipal sludge is fired.
- (10) There shall be a 10% opacity limit for emissions from the refuse bunker and ash handling loadout. The potential for dust generation by ash handling activities will be mitigated by quenching the ash prior to loading in ash transport trucks and/or scrap piles.
- (11) Unit #3 is subject to 40 CFR Part 60, Subpart E, New Source Performance Standards, except that where requirements in this permit are more restrictive, the requirements in this permit shall apply.

- (2) CEM data recorded during periods of startup, shutdown, and malfunction shall be reported but excluded from compliance averaging periods for CO and opacity.
 - (3) Excess emissions for CO emissions shall be defined as any applicable period during which the average emissions of CO, as measured by the CEM, exceeds 150 ppm (4-day rolling average, dry volume, corrected to 8% O₂).
 - (4) Excess opacity resulting from startup or shutdown or malfunction shall be permitted providing (1) best operational practices to minimize emissions are adhered to and (2) the duration of excess opacity shall be minimized but in no case exceed two hours in any 24 hour period unless specifically authorized by EPA for longer duration.
8. Excess emissions which are caused entirely or in part by poor maintenance, poor operation, or any other equipment or process failure which may reasonably be prevented during startup or shutdown shall be prohibited.

9. Reporting

- a. A copy of the results of the stack tests shall be submitted within forty-five days of testing to the Florida DER Bureau of Air Quality Management, the DER Southwest Florida District Office, Pinellas County Department of Environmental Management, and EPA Region IV.
- b. Stack monitoring shall be reported to the DER Southwest District Office and EPA Region IV on a quarterly basis in accordance with Section 17-2.710, FAC, and 40 CFR Part 60.7.
- c. Addresses for submitting reports are:

EPA, Region IV

Chief, Air Compliance Branch
U. S. Environmental Protection Agency
345 Courtland Street, N.E.
Atlanta, Georgia 30365

Florida Department of Environmental Regulation (DER)

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

III. PSD APPLICABILITY DETERMINATION

Title 40 Code of Federal Regulations, Section 52.21, requires that each pollutant subject to PSD review must be controlled by BACT. Seven pollutants are subject to BACT. The BACT emission limits proposed are summarized as follows:

<u>Pollutant</u>	<u>BACT EMISSION LIMITS</u>
Particulate Matter	0.030 gr/dscf (corrected to 12% CO ₂)
Sulfur Dioxide	170.0 lbs/hr
Nitrogen Oxides	254.0 lbs/hr
Carbon Monoxide	66.0 lbs/hr
Lead	2.80 lbs/hr
Mercury	0.294 lbs/hr (1)
Fluorides	8.31 lbs/hr (2)

Based upon these air pollutant emission limits, the calculated total annual tonnage of regulated air pollutant emitted from the units to the atmosphere is listed as follows:

<u>Pollutant</u>	<u>Maximum Annual Emissions (tons/year)</u>	<u>PSD Significant Emissions Rate (tons/year)</u>
Particulate (PM)	109	25
Sulfur Dioxide (SO ₂)	745	40
Nitrogen Dioxide (NO)	1112	40
Carbon Monoxide (CO)	289	100
Lead (Pb)	12.3	0.6
Mercury (Hg)	1.29	0.1
Fluorides (F)	36.4	3
Beryllium (Be)	0.000394 (3) (2)	0.0004

- (1) When more than 2205 lbs/day of municipal sludge is fired.
- (2) The Agency and the applicant mutually agree that actual test data may demonstrate that a higher emission limit is required. Any request for a modification of this limit shall be in accordance with the requirements of the Florida PSD regulations (Chap. 17-2.500).
- (3) An emission limitation is included in the permit to limit these emissions to below the PSD significant emissions rate.

IV. BEST AVAILABLE CONTROL TECHNOLOGY DETERMINATION (BACT)

A. Particulate Matter

NSPS for incinerators limit particulate emissions from this unit to 0.08 grains per dry standard cubic foot (gr/dscf) based on a 12% flue gas concentration of carbon dioxide. However, BACT clearinghouse reports incinerators emission limits to be from 0.01 to 0.03 gr/dscf.

In performing the BACT determination, EPA decided to take into account what BACT would have been in 1983 due to the time elapsed from the commencement of construction authorized under Florida rule and the application for a federally enforceable PSD permit. EPA has determined that a particulate emissions limit of 0.03 gr/dscf represents BACT for this facility.

B. Sulfur Dioxide

The emissions of sulfur dioxide from municipal solid waste incinerators depends on three factors. These factors are: the sulfur content of the waste, the conversion of organic and inorganic sulfur compounds to sulfur dioxide, and the retention of the sulfur dioxide in the ash. Emission test data for a multitude of solid waste combustion facilities is contained in the California Air Resources Board Report. These data indicate that emissions of SO₂ from these facilities range from 0.4 to 7.2 pounds of SO₂ per ton of solid waste fired. The proposed emission limit of 170 pounds per hour, equivalent to 3.9 pounds of SO₂ per ton of solid waste fired, is in the middle of this expected range and is determined to be BACT for this source. (It should be noted that acid gas controls were not considered to be BACT for SO₂ emissions at the time of the application (1983).)

C. Nitrogen Oxides

During combustion of municipal solid waste, NO_x is formed in high temperature zones in and around the furnace flame by the oxidation of atmospheric nitrogen and nitrogen in the waste. The two primary variables that affect the formation of NO_x are the temperature and the concentration of oxygen. Techniques such as the method of fuel firing to provide correct distribution of combustion air between overfire and underfire air, exhaust gas recirculation, and decreased heat release rates have been used to reduce NO_x emissions. A few add-on control techniques such as catalytic reduction with ammonia and thermal de-NO_x are still experimental, and are not considered to be demonstrated technology for the proposed project.

G. Fluorides

The incineration of fluorine containing wastes results in the emissions of both particulate fluoride and gaseous fluoride (as hydrogen fluoride) emissions. Emission tests have reported fluoride emissions to be from 0.0002 to 0.2 lbs/ton MSW. The emission rate determined to be BACT is 8.31 lbs/hr. However, the Agency and the applicant mutually agree that actual test data may demonstrate that a higher emissions limit is required as no control for this pollutant has been installed at this facility. Any request for modification shall be in accordance with the requirements of the Florida PSD regulations (Chap. 17-2.500).

VII. FINAL PERMIT CONDITIONS

PART I. - Specific Conditions

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