



RECEIVED

MAR 15 1999

BUREAU OF
AIR REGULATION

March 10, 1999

Certified Mail No. P 3333094835
Return Receipt Requested

Mr. Al Linero
Department of Air Resources Management
Florida Department of Environmental Protection
Twin Towers Office Building
2600 Blair Stone Road
Tallahassee, Florida 32399-2400

Re: Dade County Resources Recovery Facility
PA 77-08, PSD-FL 006A

Dear Mr. Linero:

0250348-002-AC

Attached please find a check in the amount of \$250 for amending the test methods for the Miami-Dade County Resources Recovery Facility. The changes are outlined in a request to FDEP dated December 15, 1998 (see attachment).

Please contact me if there are any question regarding this matter.

Sincerely,


Vicente Castro
Assistant Director
Technical Services

Attachments

cc: H. Oven, FDEP Power Plant Siting Office
E. Anderson, DERM
E. Delosantos, FDEP, Palm Beach
L. Casey, DSWM
F. Screve, MPC
II. A104

8675 Northwest 53 Street, Suite 201, Miami, Florida 33166 • 305-592-1776

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MONTENAY INTERNATIONAL CORP.

INVOICE NO.	INV. DATE	BALANCE DUE	GROSS PAYMENT	DISCOUNT TAKEN	NET PAYMENT
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Permit Modification Fee
Dade Plant

250.00

250.00

CHECK NO.	VENDOR NO.	TOTALS			
010791					250.00

MONTENAY INTERNATIONAL CORP.

3225 AVIATION AVE., 4TH FLOOR
MIAMI, FLORIDA 33133

LASALLE NATIONAL BANK
PAYABLE THROUGH
LASALLE BANK
WESTMONT, ILLINOIS 60559

70-2302
719

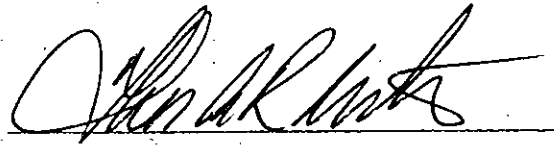
NO. 010791

CHECK DATE	CHECK NO.
03/09/99	010791
CHECK AMOUNT	
\$ **250.00*****	

*****Two Hundred Fifty Dollars and No Cents*****

PAY:
TO THE
ORDER
OF:

Florida Department Of Environmental Protection



03/9/99

⑈010791⑈ ⑆071923022⑆ 90⑈0827⑈5⑈

3225 Aviation Ave, 4th Floor
Miami, FL 33133
305 854 2229

**Montenay
International Corp.**

Fax

To: Al Lirio & Theresa Heron - FDEP	From: Anetha Lue
Fax: 850 922 6979	Pages: 2
Phone: 850 488 1344	Date: 03/10/99
Re: Test methods	CC: Lee Casey - Miami-Dade County

☐ Urgent ☐ For Review ☒ Please Comment ☐ Please Reply ☐ Please Recycle

• **Comments:** I attempted to mark-up the test methods from Theresa's draft letter to show a few additional changes that are needed. An explanation is given beside each change. Please let us know if these additional changes can be made before issuing the final letter. Lee will be sending the check for the changes to you.

Thanks

CEM; GC FOR RATA; § 19 Sec 4.3 & 5.4 for averaging calculations

CEM; TE FOR RATA; § 19 Sec 4.3 & 5.4 for averaging calculations

EPA Method	For Determination of
1	Sample and Velocity Traverses for Stationary Sources.
2	Stack Gas Velocity and Volumetric Flow Rate.
(allow wet method as well) → 3A <u>OR</u> 3	Oxygen and Carbon Dioxide Concentrations in Emissions from Stationary Sources.
(typo.) → 3 4	Moisture Content in Stack Gases.
5	PM Emissions from Stationary Sources.
201 or 201A	PM10 Emissions; however, if compliance with PM emission limitations are met, these tests are not required.
(clarification) → 6C and 19	Sulfur Dioxide Emissions from Stationary Sources.
7E and 19	Nitrogen Oxide Emissions from Stationary Sources.
(clarification) 8	<u>Determination of Sulfuric Acid Mist Emissions from Stationary Sources.</u>
9	Visible Emission Determination of Opacity from Stationary Sources.
(clarification) → CEM; 10 for RATA	Carbon Monoxide Emissions from Stationary Sources.
12-29	Inorganic Lead Emissions from Stationary Sources. Determination of Metals Emissions from Stationary Sources
(previously requested, 26A is more commonly used) → 13A/13B <u>OR</u> 26A	Total Fluoride Emissions from Stationary Sources.
23	Polychlorinated Dibenzo Dioxins and Polychlorinated Dibenzofurans.
(25 is hardly ever used) → 25 <u>OR</u> 25A	Total Gaseous Volatile Organic Compounds Concentration.
26 or 26A	Hydrogen Chloride Emissions from Stationary Sources <u>OR</u> <u>Determination of Hydrogen Halide and Halogen Emissions from Stationary Sources.</u>
(previously requested, 29 is normally used for one type of units) → 40 CFR 266 Appendix IX Section 3.1 29	Cadmium Emissions.
101A 29	Gaseous Mercury Emissions from Sewage Sludge Incinerators. <u>Determination of Metals Emissions from Stationary Sources</u>
104 <u>OR</u> 29	Beryllium Emissions from Stationary Sources <u>OR</u> <u>Determination of Metals Emissions from Stationary Sources</u>
108 <u>OR</u> 29	Gaseous Arsenic Emissions <u>OR</u> <u>Determination of Metals Emissions from Stationary Sources</u>

EXPIRATION DATE

The expiration date of Permit PSD-FL-006A is extended to December 31, 1999.



March 5, 1999

Mr. Al Linero
Department of Air Resources Management
Florida Department of Environmental Protection
Twin Towers Office Building
2600 Blair Stone Road
Tallahassee, FL 32399-2400

RECEIVED

MAR 10 1999

BUREAU OF
AIR REGULATION

Re: Dade County Resource Recovery Facility
PSD #FL-006A & COC #PA 77-08 - Memorandum of Understanding

Dear Mr. Linero:

Montenay International Corp. on behalf of its subsidiary, Montenay Power Corp which operates the Dade County Resources Recovery Facility, and the facility owner Dade County Department of Solid Waste Management, requests a Memorandum of Understanding to finalize and clarify certain permit issues. A formal request to modify the permits for the facility -PSD # FL-006A and COC # PA 77-08 - is being made by Dade County, in order to incorporate Subpart Cb, however, there remains a few interpretive issues which cannot be fully addressed by permit modifications.

The issues in question are as follows:

- We are awaiting your response to the letter dated December 15, 1998, regarding emission test methods. Please note that the application to formally change the methods is being submitted, however, as the permit modification process is somewhat lengthy a memorandum agreeing to the changes would be appreciated in the interim.
- Based on discussions during our meeting in Tallahassee on December 7, 1998, FDEP agreed to a phased approach for performance and demonstration testing, whereby, testing for all emissions other than carbon monoxide and nitrogen oxides will be completed by June 1999 or after start-up of the units, whichever is later. Testing for the two remaining parameters will be conducted prior to November 13, 2000.

The June 1999 test will include – 1) emissions measurements to demonstrate compliance with permit limits, and 2) performance testing of the new continuous emissions monitoring system for all emissions measured by that system.

Although the CEM performance test will, by virtue of the procedures used to perform such tests, measure nitrogen oxides and carbon monoxide. These results will be used to verify that the accuracy of the CEM system and will not be used to demonstrate compliance with nitrogen oxides and carbon monoxide Subpart Cb limits. Nox and CO will be made to comply with Subpart Cb limits by November 13, 2000, and tests results will be submitted to FDEP for these two pollutants prior to that date.

montenay international corp.

3225 aviation avenue, 4th floor, miami, florida 33133 (305) 854-2229 fax (305) 854-2272

A test protocol for emissions measurement which reflects this phased procedure has already been submitted to FDEP Palm Beach, however, a memorandum from your office may assist us as we proceed.

- The final issue, which we hoped to clarify, was the method by which gas usage is monitored. The permit does not address the method by which the gas to each unit should be measured. The current PSD permit states in:

Specific Condition 3.B. : "Auxiliary burners for each unit shall be fired only by propane gas. They shall not exceed a heat input of 80 MMBTU/hr", and in Specific Condition 4.B.3: "The DCRRF shall maintain a central file containing all measurements, records, and other data that are required to be collected pursuant to the various specific conditions of this permit. This file shall include but not be limited to :.....3)The amount of propane gas burned per unit."

MPC proposes to use a meter that will be common to all four units to measure gas flow and to apportion/calculate gas flows to each unit based on unit operating hours. FDEP indicated that they may wish to discuss this issue with EPA, thus, we will continue with current plans until hearing otherwise

As stated earlier, while we are continuing with the current construction schedule and plans, we await a response to these clarifications. At present we are still planning to meet the June 1999 schedule for testing the first unit.

Thank you and other FDEP staff from the offices of Siting, Emissions Measurement, and Permitting, for taking the time to meet with us in Tallahassee.

Please contact me by telephone or by e-mail at anethal@aol.com with any questions regarding this request.

Sincerely,



D. Anetha Lue, P.E.
Environmental Coordinator, MIC

cc: H.Oven – FDEP Power Plant Siting Office
E. Anderson –DERM
E. Delosantos – FDEP, Palm Beach
L. Casey –DSWM
V Castro –DSWM

Memorandum

Florida Department of Environmental Protection

TO: Andrew Adkins
Miami-Dade Audit & Management Services

FROM: Al Linero, Administrator, New Source Review



DATE: February 22, 1999

SUBJECT: Dade County Resource Recovery Facility
Air Permitting Requirements

Per our conversation today, it is my understanding that the Miami-Dade Facility operated by Montenay requires three permits related to Air Pollution. These include the original (late 1970's) Certification pursuant to the Florida Power Plant Siting Act. It has a number of air pollution control conditions related to both the construction and operation of the facility. That certification was updated in 1994 or 1995 to reflect a pollution control project.

The second permit is the Prevention of Significant Deterioration (PSD) Permit. It was issued in the late 1970's by the U.S.E.P.A. and modified by the State of Florida in 1994 to reflect the same pollution control project mentioned above.

One other requirement is the Major Source (Title V) Operation Permit mandated by the 1990 Clean Air Act. We have an application on file. It was submitted by the deadline of mid-1996. The application will be processed later this year.



RECEIVED

FEB 22 1999

BUREAU OF
February 16, 1999 AIR REGULATION

RE: Annual Operating Report for Air Pollutant Emitting Facility - 1998

CERTIFIED MAIL NO: P 344 360 808 (RETURN RECEIPT REQUESTED)

Department of Environmental Protection
Southeast District - Air Program
PO Box 15425
West Palm Beach, Florida 33416-5425

DEPARTMENT OF
ENVIRONMENTAL PROTECTION

FEB 22 1999

SITING COORDINATION

To Whom It May Concern:

Transmitted herewith are the referenced reports for the following facilities:

- North Dade Landfill (ID 0250603)
- South Dade Landfill (ID 0250623)
- Resources Recovery Facility (ID 0250348)

Please contact me at (305) 594-1670 if you have any questions.

Sincerely,

A handwritten signature in black ink, appearing to read "Lee S. Casey".

Lee S. Casey
Chief, Environmental Compliance Division
MIAMI DADE - SOLID WASTE MANAGEMENT

VC: GH: ml/ac

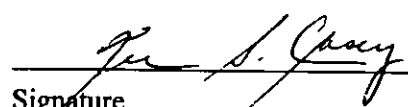
cc: J. Kahn, FDEP/WPB
B. Oven, FDEP/RRF (Tallahassee)
C. Strong, MPC/RRF
R. Johns, DERM
W. Urchdorf, DSWM/RRF
W. Thorne, DSWM/NDL & SDL
V. Castro, DSWM
File: RRF II.A211, SDL III.A503, and NDL IV.A504

Facility ID : 0250348

D. OWNER/CONTACT INFORMATION

1. Owner or Authorized Representative	
Name and Title Vicente Castro ASSISTANT DIRECTOR	
Mailing Address Organization/Firm : METRO-DADE CO.DEP.OF SOLID WASTE Street Address : 8675 NW 53RD STREET City : MIAMI State : FL Zip Code : 33166	
Telephone : (305)594-1670	Fax : (305) 594-1591
2. Facility Contact	
Name and Title LEE CASEY Chief, Environmental Compliance Division	
Mailing Address Organization/Firm : METRO-DADE CO.DEP.OF SOLID WASTE Street Address : 8675 NW 53 STREET City : MIAMI State : FL Zip Code : 33166	
Telephone : (305)594-1670	Fax : (305) 594-1591

E. OWNER OR AUTHORIZED REPRESENTATIVE STATEMENT

I hereby certify that the information given in this report is correct to the best of my knowledge.	
 Signature	<u>2/17/99</u> Date

Facility ID : 0250348

Emissions Unit ID : 001

II. EMISSIONS UNIT REPORT

A. EMISSIONS UNIT INFORMATION

1. Emissions Unit Description BLR#1/72000#/HR R.D.F. W/MECHANICAL COLLECTOR & ESP TO STACK		
2. Emissions Unit ID 001	3. Emissions Unit Classification Regulated Emissions Unit	4. Operated During Year? Y
5. DEP Permit or PPS Number PA 7708	6. Emissions Unit Status ACTIVE	7. Ozone SIP Base Year Emissions Unit? Y
8. Emissions Unit Startup Date 09-Jan-81	9. Long-term Reserve Shutdown Date	10. Permanent Shutdown Date

B. EMISSION POINT/CONTROL INFORMATION

1. Emissions Point Type AN EMISSION POINT SERVING TWO OR MORE EMISSIONS UNITS
2a. Description of Control Equipment 'a' MULTIPLE CYCLONE W/O FLY ASH REINJECTION
2b. Description of Control Equipment 'b' ELECTROSTATIC PRECIPITATOR HIGH EFFICIENCY (95.0-99.9%)

C. EMISSIONS UNIT OPERATING SCHEDULE INFORMATION

1. Average Annual Operation 19.8 hours/day 7 days/week	2. Total Operation During Year (hours/year) 7,243.0
3. Percent Hours of Operation by Season DJF : 25.0% MAM : 22.2% JJA : 26.1% SON : 26.7%	
4. Average Ozone Season Operation (June 1 to August 31) 20.5 hours/day 7 days/week	5. Total Operation During Ozone Season (days/season) 92

D. EMISSIONS UNIT COMMENT

<u>Pollutant</u>	<u>Test Date</u>
Carbon Monoxide	Jan. 83
Mercury Compounds	Jul. 98
Nitrogen Oxides	Jan. 83
Lead	Jan. 88
Particulate Matter	Jul. 98
Sulfur Dioxide	Jan. 83
Volatile Organic Compounds	Jan. 83

(1) PROCESS/FUEL INFORMATION

1. SCC 1-01-012-02	2. Description of Process or Type of Fuel External Combustion Boilers Solid Waste Electric Generation Refuse Derived Fuel R.D.FUEL; ANN.LIM.EST.FROM EPA FACIL.LIM./4; %ASH - Q	
3. Annual Process or Fuel Usage Rate 180,288 ton/year	4. Ozone Season Daily Process or Fuel Usage Rate 506.69 ton/day	5. SCC Unit Tons Burned
6. Fuel Average % Sulfur 0.16	7. Fuel Average % Ash 7.31	8. Fuel Heat Content (mmBtu/SCC Unit) 1,740,865

(2) EMISSIONS INFORMATION

1. Pollutant CO CAS No. 630-08-0 <input type="checkbox"/> Below Threshold Carbon Monoxide <input type="checkbox"/> Not Emitted		
2. Annual Emissions (ton/year) 348.8	3. Ozone Season Daily Emissions (lb/day) 1,974.2	4. Emissions Method Code 1
5. Emissions Calculation (Show separately both annual and daily emissions calculations) $(96.3 \text{ lb/hr} \times 7,243 \text{ hr/yr}) \div 2000 \text{ lb/ton} = 348.75 \text{ ton/yr}$ $(96.3 \text{ lb/hr} \times 20.5 \text{ hr/day}) = 1,974.15 \text{ lb/day}$		

1. Pollutant DIOX CAS No. <input type="checkbox"/> Below Threshold Dioxin/Furan <input type="checkbox"/> Not Emitted		
2. Annual Emissions (ton/year)	3. Ozone Season Daily Emissions (lb/day)	4. Emissions Method Code
5. Emissions Calculation (Show separately both annual and daily emissions calculations)		

1. Pollutant FL CAS No. <input type="checkbox"/> Below Threshold Fluorides - Total (elemental fluorine and fluoride compounds) <input type="checkbox"/> Not Emitted		
2. Annual Emissions (ton/year)	3. Ozone Season Daily Emissions (lb/day)	4. Emissions Method Code
5. Emissions Calculation (Show separately both annual and daily emissions calculations)		

*: Pollutant subject to emissions limiting standard or emissions cap

1. Pollutant H058 Dibenzofurans		CAS No. 132-64-9	<input type="checkbox"/> Below Threshold <input type="checkbox"/> Not Emitted
2. Annual Emissions (ton/year)	3. Ozone Season Daily Emissions (lb/day)	4. Emissions Method Code	
5. Emissions Calculation (Show separately both annual and daily emissions calculations)			

1. Pollutant H114 Mercury Compounds		CAS No.	<input type="checkbox"/> Below Threshold <input type="checkbox"/> Not Emitted
2. Annual Emissions (ton/year) 0.07	3. Ozone Season Daily Emissions (lb/day) 0.4	4. Emissions Method Code 1	
5. Emissions Calculation (Show separately both annual and daily emissions calculations) $(0.019 \text{ lb/hr} \times 7,243 \text{ hr/yr}) \div 2000 \text{ lb/ton} = 0.069 \text{ ton/yr}$ $(0.019 \text{ lb/hr} \times 20.5 \text{ hr/day}) = 0.389 \text{ lb/day}$			

1. Pollutant H165 2,3,7,8-Tetrachlorodibenzo-p-dioxin		CAS No. 1746-01-6	<input type="checkbox"/> Below Threshold <input type="checkbox"/> Not Emitted
2. Annual Emissions (ton/year)	3. Ozone Season Daily Emissions (lb/day)	4. Emissions Method Code	
5. Emissions Calculation (Show separately both annual and daily emissions calculations)			

1. Pollutant NOX Nitrogen Oxides		CAS No. 10102-44-0	<input type="checkbox"/> Below Threshold <input type="checkbox"/> Not Emitted
2. Annual Emissions (ton/year) 166.8	3. Ozone Season Daily Emissions (lb/day) 944.0	4. Emissions Method Code 1	
5. Emissions Calculation (Show separately both annual and daily emissions calculations) $(46.05 \text{ lb/hr} \times 7,243 \text{ hr/yr}) \div 2000 \text{ lb/ton} = 166.77 \text{ ton/yr}$ $(46.05 \text{ lb/hr} \times 20.5 \text{ hr/day}) = 944.03 \text{ lb/day}$			

*: Pollutant subject to emissions limiting standard or emissions cap

1. Pollutant PB Lead - Total (elemental lead and lead compounds)		CAS No.	<input type="checkbox"/> Below Threshold <input type="checkbox"/> Not Emitted
2. Annual Emissions (ton/year) 0.8	3. Ozone Season Daily Emissions (lb/day) 4.7	4. Emissions Method Code 1	
5. Emissions Calculation (Show separately both annual and daily emissions calculations) $(0.227 \text{ lb/hr} \times 7,243 \text{ hr/yr}) \div 2000 \text{ lb/ton} = 0.82 \text{ ton/yr}$ $(0.227 \text{ lb/hr} \times 20.5 \text{ hr/day}) = 4.65 \text{ lb/day}$			

1. Pollutant * PM Particulate Matter - Total		CAS No.	<input type="checkbox"/> Below Threshold <input type="checkbox"/> Not Emitted
2. Annual Emissions (ton/year) 120.7	3. Ozone Season Daily Emissions (lb/day) 683.0	4. Emissions Method Code 1	
5. Emissions Calculation (Show separately both annual and daily emissions calculations) $(33.315 \text{ lb/hr} \times 7,243 \text{ hr/yr}) \div 2000 \text{ lb/ton} = 120.65 \text{ ton/yr}$ $(33.315 \text{ lb/hr} \times 20.5 \text{ hr/day}) = 682.96 \text{ lb/day}$			

1. Pollutant PM10 Particulate Matter - PM10		CAS No.	<input type="checkbox"/> Below Threshold <input type="checkbox"/> Not Emitted
2. Annual Emissions (ton/year) 120.7	3. Ozone Season Daily Emissions (lb/day) 683.0	4. Emissions Method Code 1	
5. Emissions Calculation (Show separately both annual and daily emissions calculations) $PM_{10} = PM$			

1. Pollutant * SO2 Sulfur Dioxide		CAS No. 7446-09-5	<input type="checkbox"/> Below Threshold <input type="checkbox"/> Not Emitted
2. Annual Emissions (ton/year) 411.8	3. Ozone Season Daily Emissions (lb/day) 2,330.9	4. Emissions Method Code 1	
5. Emissions Calculation (Show separately both annual and daily emissions calculations) $(113.7 \text{ lb/hr} \times 7,243 \text{ hr/yr}) \div 2000 \text{ lb/ton} = 411.76 \text{ ton/yr}$ $(113.7 \text{ lb/hr} \times 20.5 \text{ hr/day}) = 2,330.85 \text{ lb/day}$			

*: Pollutant subject to emissions limiting standard or emissions cap

Facility ID : 0250348

Emissions Unit ID : 001

SCC : 1-01-012-02

1. Pollutant * VOC Volatile Organic Compounds		CAS No.	<input type="checkbox"/> Below Threshold <input type="checkbox"/> Not Emitted
2. Annual Emissions (ton/year) 14.3	3. Ozone Season Daily Emissions (lb/day) 81.0	4. Emissions Method Code 1	
5. Emissions Calculation (Show separately both annual and daily emissions calculations) $(3.95 \text{ lb/hr} \times 7,243 \text{ hr/yr}) \div 2000 \text{ lb/ton} = 14.3 \text{ ton/yr}$ $(3.95 \text{ lb/hr} \times 20.5 \text{ hr/day}) = 80.97 \text{ lb/day}$			

*: Pollutant subject to emissions limiting standard or emissions cap

Facility ID : 0250348

Emissions Unit ID : 002

II. EMISSIONS UNIT REPORT

A. EMISSIONS UNIT INFORMATION

1. Emissions Unit Description BLR#2/72000#/HR R.D.F. W/MECHANICAL COLLECTOR & ESP TO STACK		
2. Emissions Unit ID 002	3. Emissions Unit Classification Regulated Emissions Unit	4. Operated During Year? Y
5. DEP Permit or PPS Number PA 7708	6. Emissions Unit Status ACTIVE	7. Ozone SIP Base Year Emissions Unit? Y
8. Emissions Unit Startup Date 09-Jan-81	9. Long-term Reserve Shutdown Date	10. Permanent Shutdown Date

B. EMISSION POINT/CONTROL INFORMATION

1. Emissions Point Type AN EMISSION POINT SERVING TWO OR MORE EMISSIONS UNITS
2a. Description of Control Equipment 'a' MULTIPLE CYCLONE W/O FLY ASH REINJECTION
2b. Description of Control Equipment 'b' ELECTROSTATIC PRECIPITATOR HIGH EFFICIENCY (95.0-99.9%)

C. EMISSIONS UNIT OPERATING SCHEDULE INFORMATION

1. Average Annual Operation 18.4 hours/day 7 days/week	2. Total Operation During Year (hours/year) 6,712.6
3. Percent Hours of Operation by Season DJF : 25.8% MAM : 22.6% JJA : 25.1% SON : 26.6%	
4. Average Ozone Season Operation (June 1 to August 31) 18.3 hours/day 7 days/week	5. Total Operation During Ozone Season (days/season) 92

D. EMISSIONS UNIT COMMENT

<u>Pollutant</u>	<u>Test Date</u>
Carbon Monoxide	Aug. 96
Mercury Compounds	Jul. 98
Nitrogen Oxides	Aug. 96
Lead	Nov. 88
Particulate Matter	Jul. 98
Sulfur Dioxide	Jan. 83
Volatile Organic Compounds	Jan. 83

(1) PROCESS/FUEL INFORMATION

1. SCC 1-01-012-02	2. Description of Process or Type of Fuel External Combustion Boilers Solid Waste Electric Generation Refuse Derived Fuel R.D.FUEL; ANN.LIM.EST.FROM EPA FACIL.LIM./4; %ASH - Q	
3. Annual Process or Fuel Usage Rate 166,498 ton/year	4. Ozone Season Daily Process or Fuel Usage Rate 452.77 ton/day	5. SCC Unit Tons Burned
6. Fuel Average % Sulfur 0.16	7. Fuel Average % Ash 7.31	8. Fuel Heat Content (mmBtu/SCC Unit) 1,607,707

(2) EMISSIONS INFORMATION

1. Pollutant Carbon Monoxide		CAS No. 630-08-0	[] Below Threshold [] Not Emitted
2. Annual Emissions (ton/year) 175.0	3. Ozone Season Daily Emissions (lb/day) 954.4	4. Emissions Method Code 1	
5. Emissions Calculation (Show separately both annual and daily emissions calculations) (52.15 lb/hr x 6,712.6 hr/yr) ÷ 2000 = 175.03 ton/yr (52.15 lb/hr x 18.3 hr/day) = 954.35 lb/day			

1. Pollutant Dioxin/Furan		CAS No.	[] Below Threshold [] Not Emitted
2. Annual Emissions (ton/year)	3. Ozone Season Daily Emissions (lb/day)		4. Emissions Method Code
5. Emissions Calculation (Show separately both annual and daily emissions calculations)			

1. Pollutant Fluorides - Total (elemental fluorine and fluoride compounds)		CAS No.	[] Below Threshold [] Not Emitted
2. Annual Emissions (ton/year)	3. Ozone Season Daily Emissions (lb/day)		4. Emissions Method Code
5. Emissions Calculation (Show separately both annual and daily emissions calculations)			

*: Pollutant subject to emissions limiting standard or emissions cap

1. Pollutant H058 Dibenzofurans		CAS No. 132-64-9	<input type="checkbox"/> Below Threshold <input type="checkbox"/> Not Emitted
2. Annual Emissions (ton/year)	3. Ozone Season Daily Emissions (lb/day)	4. Emissions Method Code	
5. Emissions Calculation (Show separately both annual and daily emissions calculations)			

1. Pollutant H114 Mercury Compounds		CAS No.	<input type="checkbox"/> Below Threshold <input type="checkbox"/> Not Emitted
2. Annual Emissions (ton/year) 0.05	3. Ozone Season Daily Emissions (lb/day) 0.3	4. Emissions Method Code 1	
5. Emissions Calculation (Show separately both annual and daily emissions calculations) $(0.016 \text{ lb/hr} \times 6,712.6 \text{ hr/yr}) \div 2000 \text{ lb/ton} = 0.054 \text{ ton/yr}$ $(0.016 \text{ lb/hr} \times 18.3 \text{ hr/day}) = 0.29 \text{ lb/day}$			

1. Pollutant H165 2,3,7,8-Tetrachlorodibenzo-p-dioxin		CAS No. 1746-01-6	<input type="checkbox"/> Below Threshold <input type="checkbox"/> Not Emitted
2. Annual Emissions (ton/year)	3. Ozone Season Daily Emissions (lb/day)	4. Emissions Method Code	
5. Emissions Calculation (Show separately both annual and daily emissions calculations)			

1. Pollutant NOX Nitrogen Oxides		CAS No. 10102-44-0	<input type="checkbox"/> Below Threshold <input type="checkbox"/> Not Emitted
2. Annual Emissions (ton/year) 376.5	3. Ozone Season Daily Emissions (lb/day) 2,052.9	4. Emissions Method Code 1	
5. Emissions Calculation (Show separately both annual and daily emissions calculations) $(112.18 \text{ lb/hr} \times 6,712.6 \text{ hr/yr}) \div 2000 \text{ lb/ton} = 376.51 \text{ ton/day}$ $(112.18 \text{ lb/hr} \times 18.3 \text{ hr/day}) = 2,052.89 \text{ lb/day}$			

*: Pollutant subject to emissions limiting standard or emissions cap

1. Pollutant PB Lead - Total (elemental lead and lead compounds)		CAS No.	<input type="checkbox"/> Below Threshold <input type="checkbox"/> Not Emitted
2. Annual Emissions (ton/year) 1.1	3. Ozone Season Daily Emissions (lb/day) 6.0	4. Emissions Method Code 1	
5. Emissions Calculation (Show separately both annual and daily emissions calculations) $(0.33 \text{ lb/hr} \times 6,712.6 \text{ hr/yr}) \div 2000 \text{ lb/ton} = 1.11 \text{ ton/yr}$ $(0.33 \text{ lb/hr} \times 18.3 \text{ hr/day}) = 6.04 \text{ lb/day}$			

1. Pollutant * PM Particulate Matter - Total		CAS No.	<input type="checkbox"/> Below Threshold <input type="checkbox"/> Not Emitted
2. Annual Emissions (ton/year) 141.8	3. Ozone Season Daily Emissions (lb/day) 773.3	4. Emissions Method Code 1	
5. Emissions Calculation (Show separately both annual and daily emissions calculations) $(42.257 \text{ lb/hr} \times 6,712.6 \text{ hr/yr}) \div 2000 \text{ lb/ton} = 141.83 \text{ ton/yr}$ $(42.257 \text{ lb/hr} \times 18.3 \text{ hr/day}) = 773.30 \text{ lb/day}$			

1. Pollutant PM10 Particulate Matter - PM10		CAS No.	<input type="checkbox"/> Below Threshold <input type="checkbox"/> Not Emitted
2. Annual Emissions (ton/year) 141.8	3. Ozone Season Daily Emissions (lb/day) 773.3	4. Emissions Method Code 1	
5. Emissions Calculation (Show separately both annual and daily emissions calculations) $PM_{10} = PM$			

1. Pollutant * SO2 Sulfur Dioxide		CAS No. 7446-09-5	<input type="checkbox"/> Below Threshold <input type="checkbox"/> Not Emitted
2. Annual Emissions (ton/year) 381.6	3. Ozone Season Daily Emissions (lb/day) 2,080.7	4. Emissions Method Code 1	
5. Emissions Calculation (Show separately both annual and daily emissions calculations) $(113.7 \text{ lb/hr} \times 6,712.6 \text{ hr/yr}) \div 2000 \text{ lb/ton} = 381.61 \text{ ton/yr}$ $(113.7 \text{ lb/hr} \times 18.3 \text{ hr/day}) = 2,080.71 \text{ lb/day}$			

*: Pollutant subject to emissions limiting standard or emissions cap

Facility ID : 0250348

Emissions Unit ID : 002

SCC : 1-01-012-02

1. Pollutant * VOC Volatile Organic Compounds		CAS No.	<input type="checkbox"/> Below Threshold <input type="checkbox"/> Not Emitted
2. Annual Emissions (ton/year) 13.3	3. Ozone Season Daily Emissions (lb/day) 72.3	4. Emissions Method Code 1	
5. Emissions Calculation (Show separately both annual and daily emissions calculations) $(3.95 \text{ lb/hr} \times 6,712.6 \text{ hr/yr}) \div 2000 \text{ lb/ton} = 13.26 \text{ ton/yr}$ $(3.95 \text{ lb/hr} \times 18.3 \text{ hr/day}) = 72.29 \text{ lb/day}$			

*: Pollutant subject to emissions limiting standard or emissions cap

Facility ID : 0250348

Emissions Unit ID : 003

II. EMISSIONS UNIT REPORT

A. EMISSIONS UNIT INFORMATION

1. Emissions Unit Description - BLR#3/72000#/HR R.D.F. W/MECHANICAL COLLECTOR & ESP TO STACK		
2. Emissions Unit ID 003	3. Emissions Unit Classification Regulated Emissions Unit	4. Operated During Year? Y
5. DEP Permit or PPS Number PA 7708	6. Emissions Unit Status ACTIVE	7. Ozone SIP Base Year Emissions Unit? Y
8. Emissions Unit Startup Date 09-Jan-81	9. Long-term Reserve Shutdown Date	10. Permanent Shutdown Date

B. EMISSION POINT/CONTROL INFORMATION

1. Emissions Point Type AN EMISSION POINT SERVING TWO OR MORE EMISSIONS UNITS
2a. Description of Control Equipment 'a' MULTIPLE CYCLONE W/O FLY ASH REINJECTION
2b. Description of Control Equipment 'b' ELECTROSTATIC PRECIPITATOR HIGH EFFICIENCY (95.0-99.9%)

C. EMISSIONS UNIT OPERATING SCHEDULE INFORMATION

1. Average Annual Operation 20.1 hours/day 7 days/week	2. Total Operation During Year (hours/year) 7,325.0
3. Percent Hours of Operation by Season DJF : 26.3% MAM : 24.7% JJA : 24.3% SON : 24.7%	
4. Average Ozone Season Operation (June 1 to August 31) 19.4 hours/day 7 days/week	5. Total Operation During Ozone Season (days/season) 92

Facility ID : 0250348

Emissions Unit ID : 003

D. EMISSIONS UNIT COMMENT

<u>Pollutant</u>	<u>Test Date</u>
Carbon Monoxide	Aug. 96
Mercury Compounds	Jun. 98
Nitrogen Oxides	Jan. 83
Lead	Jan. 89
Particulate Matter	Jun. 98
Sulfur Dioxide	Jan. 83
Volatile Organic Compounds	Jan. 83

(1) PROCESS/FUEL INFORMATION

1. SCC 1-01-012-02	2. Description of Process or Type of Fuel External Combustion Boilers Solid Waste Electric Generation Refuse Derived Fuel R.D.FUEL; ANN.LIM.EST.FROM EPA FACIL.LIM./4; %ASH - Q	
3. Annual Process or Fuel Usage Rate 184,141 ton/year	4. Ozone Season Daily Process or Fuel Usage Rate 478.17 ton/day	5. SCC Unit Tons Burned
6. Fuel Average % Sulfur 0.16	7. Fuel Average % Ash 7.31	8. Fuel Heat Content (mmBtu/SCC Unit) 1,778,062

(2) EMISSIONS INFORMATION

1. Pollutant CO Carbon Monoxide			CAS No. 630-08-0	[] Below Threshold [] Not Emitted
2. Annual Emissions (ton/year) 69.3	3. Ozone Season Daily Emissions (lb/day) 367.2	4. Emissions Method Code 1		
5. Emissions Calculation (Show separately both annual and daily emissions calculations) $(18.93 \text{ lb/hr} \times 7,325 \text{ hr/yr}) \div 2000 = 69.33 \text{ ton/yr}$ $(18.93 \text{ lb/hr} \times 19.4 \text{ hr/day}) = 367.24 \text{ lb/day}$				

1. Pollutant DIOX Dioxin/Furan			CAS No.	[] Below Threshold [] Not Emitted
2. Annual Emissions (ton/year)	3. Ozone Season Daily Emissions (lb/day)	4. Emissions Method Code		
5. Emissions Calculation (Show separately both annual and daily emissions calculations)				

1. Pollutant FL Fluorides - Total (elemental fluorine and fluoride compounds)			CAS No.	[] Below Threshold [] Not Emitted
2. Annual Emissions (ton/year)	3. Ozone Season Daily Emissions (lb/day)	4. Emissions Method Code		
5. Emissions Calculation (Show separately both annual and daily emissions calculations)				

*: Pollutant subject to emissions limiting standard or emissions cap

1. Pollutant H058 Dibenzofurans		CAS No. 132-64-9	<input type="checkbox"/> Below Threshold <input type="checkbox"/> Not Emitted
2. Annual Emissions (ton/year)	3. Ozone Season Daily Emissions (lb/day)	4. Emissions Method Code	
5. Emissions Calculation (Show separately both annual and daily emissions calculations)			

1. Pollutant H114 Mercury Compounds		CAS No.	<input type="checkbox"/> Below Threshold <input type="checkbox"/> Not Emitted
2. Annual Emissions (ton/year) 0.07	3. Ozone Season Daily Emissions (lb/day) 0.4	4. Emissions Method Code 1	
5. Emissions Calculation (Show separately both annual and daily emissions calculations) $(0.019 \text{ lb/hr} \times 7,325 \text{ hr/yr}) \div 2000 \text{ lb/ton} = 0.069 \text{ ton/yr}$ $(0.019 \text{ lb/hr} \times 19.4 \text{ hr/day}) = 0.37 \text{ lb/day}$			

1. Pollutant H165 2,3,7,8-Tetrachlorodibenzo-p-dioxin		CAS No. 1746-01-6	<input type="checkbox"/> Below Threshold <input type="checkbox"/> Not Emitted
2. Annual Emissions (ton/year)	3. Ozone Season Daily Emissions (lb/day)	4. Emissions Method Code	
5. Emissions Calculation (Show separately both annual and daily emissions calculations)			

1. Pollutant NOX Nitrogen Oxides		CAS No. 10102-44-0	<input type="checkbox"/> Below Threshold <input type="checkbox"/> Not Emitted
2. Annual Emissions (ton/year) 117.8	3. Ozone Season Daily Emissions (lb/day) 623.7	4. Emissions Method Code 1	
5. Emissions Calculation (Show separately both annual and daily emissions calculations) $(32.15 \text{ lb/hr} \times 7,325 \text{ hr/yr}) \div 2000 \text{ lb/ton} = 117.75 \text{ ton/yr}$ $(32.15 \text{ lb/hr} \times 19.4 \text{ hr/day}) = 623.71 \text{ lb/day}$			

*: Pollutant subject to emissions limiting standard or emissions cap

1. Pollutant PB Lead - Total (elemental lead and lead compounds)		CAS No.	<input type="checkbox"/> Below Threshold <input type="checkbox"/> Not Emitted
2. Annual Emissions (ton/year) 1.6	3. Ozone Season Daily Emissions (lb/day) 8.6	4. Emissions Method Code 1	
5. Emissions Calculation (Show separately both annual and daily emissions calculations) $(0.441 \text{ lb/hr} \times 7,325 \text{ hr/yr}) \div 2000 \text{ lb/ton} = 1.62 \text{ ton/yr}$ $(0.441 \text{ lb/hr} \times 19.4 \text{ hr/day}) = 8.56 \text{ lb/day}$			

1. Pollutant * PM Particulate Matter - Total		CAS No.	<input type="checkbox"/> Below Threshold <input type="checkbox"/> Not Emitted
2. Annual Emissions (ton/year) 87.5	3. Ozone Season Daily Emissions (lb/day) 463.6	4. Emissions Method Code 1	
5. Emissions Calculation (Show separately both annual and daily emissions calculations) $(23.897 \text{ lb/hr} \times 7,325 \text{ hr/yr}) \div 2000 \text{ lb/ton} = 87.52 \text{ ton/yr}$ $(23.897 \text{ lb/hr} \times 19.4 \text{ hr/day}) = 463.6 \text{ lb/day}$			

1. Pollutant PM10 Particulate Matter - PM10		CAS No.	<input type="checkbox"/> Below Threshold <input type="checkbox"/> Not Emitted
2. Annual Emissions (ton/year) 87.5	3. Ozone Season Daily Emissions (lb/day) 463.6	4. Emissions Method Code 1	
5. Emissions Calculation (Show separately both annual and daily emissions calculations) $PM_{10} = PM$			

1. Pollutant * SO2 Sulfur Dioxide		CAS No. 7446-09-5	<input type="checkbox"/> Below Threshold <input type="checkbox"/> Not Emitted
2. Annual Emissions (ton/year) 348.3	3. Ozone Season Daily Emissions (lb/day) 1,844.9	4. Emissions Method Code 1	
5. Emissions Calculation (Show separately both annual and daily emissions calculations) $(95.1 \text{ lb/hr} \times 7,325 \text{ hr/yr}) \div 2000 \text{ lb/ton} = 348.3 \text{ ton/yr}$ $(95.1 \text{ lb/hr} \times 19.4 \text{ hr/day}) = 1,844.94 \text{ lb/day}$			

*: Pollutant subject to emissions limiting standard or emissions cap

Facility ID : 0250348

Emissions Unit ID : 003

SCC : 1-01-012-02

1. Pollutant * VOC Volatile Organic Compounds		CAS No.	<input type="checkbox"/> Below Threshold <input type="checkbox"/> Not Emitted
2. Annual Emissions (ton/year) 3.5	3. Ozone Season Daily Emissions (lb/day) 18.4	4. Emissions Method Code 1	
5. Emissions Calculation (Show separately both annual and daily emissions calculations) $(0.95 \text{ lb/hr} \times 7,325 \text{ hr.yr}) \div 2000 \text{ lb/ton} = 3.48 \text{ ton/yr}$ $(0.95 \text{ lb/hr} \times 19.4 \text{ hr/day}) = 18.43 \text{ lb/day}$			

*: Pollutant subject to emissions limiting standard or emissions cap

Facility ID : 0250348

Emissions Unit ID : 004

II. EMISSIONS UNIT REPORT

A. EMISSIONS UNIT INFORMATION

1. Emissions Unit Description BLR#4/72000#/HER R-D.F. W/MECHANICAL COLLECTOR & ESP TO STACK		
2. Emissions Unit ID 004	3. Emissions Unit Classification Regulated Emissions Unit	4. Operated During Year? Y
5. DEP Permit or PPS Number PA 7708	6. Emissions Unit Status ACTIVE	7. Ozone SIP Base Year Emissions Unit? Y
8. Emissions Unit Startup Date 09-Jan-81	9. Long-term Reserve Shutdown Date	10. Permanent Shutdown Date

B. EMISSION POINT/CONTROL INFORMATION

1. Emissions Point Type AN EMISSION POINT SERVING TWO OR MORE EMISSIONS UNITS
2a. Description of Control Equipment 'a' MULTIPLE CYCLONE W/O FLY ASH REINJECTION
2b. Description of Control Equipment 'b' ELECTROSTATIC PRECIPITATOR HIGH EFFICIENCY (95.0-99.9%)

C. EMISSIONS UNIT OPERATING SCHEDULE INFORMATION

1. Average Annual Operation 20.7 hours/day 7 days/week	2. Total Operation During Year (hours/year) 7,570.8
3. Percent Hours of Operation by Season DJF : 25.1% MAM : 24.8% JJA : 25.0% SON : 25.1%	
4. Average Ozone Season Operation (June 1 to August 31) 20.6 hours/day 7 days/week	5. Total Operation During Ozone Season (days/season) 92

Facility ID : 0250348

Emissions Unit ID : 004

D. EMISSIONS UNIT COMMENT

<u>Pollutant</u>	<u>Test Date</u>
Carbon Monoxide	Jan. 83
Mercury Compounds	Jun. 98
Nitrogen Oxides	Jan. 83
Lead	Jan. 89
Particulate Matter	Jun. 98
Sulfur Dioxide	Jan. 83
Volatile Organic Compounds	Jan. 83

(1) PROCESS/FUEL INFORMATION

1. SCC 1-01-012-02	2. Description of Process or Type of Fuel External Combustion Boilers Electric Generation Solid Waste Refuse Derived Fuel R.D.FUEL; ANN.LIM.EST.FROM EPA FACIL.LIM./4; %ASH - Q	
3. Annual Process or Fuel Usage Rate 190,548 ton/year	4. Ozone Season Daily Process or Fuel Usage Rate 509.65 ton/day	5. SCC Unit Tons Burned
6. Fuel Average % Sulfur 0.16	7. Fuel Average % Ash 7.31	8. Fuel Heat Content (mmBtu/SCC Unit) 1,839,928

(2) EMISSIONS INFORMATION

1. Pollutant Carbon Monoxide	CAS No. 630-08-0	<input type="checkbox"/> Below Threshold <input type="checkbox"/> Not Emitted
2. Annual Emissions (ton/year) 390.5	3. Ozone Season Daily Emissions (lb/day) 2,124.9	4. Emissions Method Code 1
5. Emissions Calculation (Show separately both annual and daily emissions calculations) $(103.15 \text{ lb/yr} \times 7,570.8 \text{ hr/yr}) \div 2000 \text{ lb/ton} = 390.46 \text{ ton/yr}$ $(103.15 \text{ lb/yr} \times 20.6 \text{ hr/day}) = 2,124.89 \text{ lb/day}$		

1. Pollutant Dioxin/Furan	CAS No.	<input type="checkbox"/> Below Threshold <input type="checkbox"/> Not Emitted
2. Annual Emissions (ton/year)	3. Ozone Season Daily Emissions (lb/day)	4. Emissions Method Code
5. Emissions Calculation (Show separately both annual and daily emissions calculations)		

1. Pollutant Fluorides - Total (elemental fluorine and fluoride compounds)	CAS No.	<input type="checkbox"/> Below Threshold <input type="checkbox"/> Not Emitted
2. Annual Emissions (ton/year)	3. Ozone Season Daily Emissions (lb/day)	4. Emissions Method Code
5. Emissions Calculation (Show separately both annual and daily emissions calculations)		

*: Pollutant subject to emissions limiting standard or emissions cap

1. Pollutant H058 Dibenzofurans		CAS No. 132-64-9	<input type="checkbox"/> Below Threshold <input type="checkbox"/> Not Emitted
2. Annual Emissions (ton/year)	3. Ozone Season Daily Emissions (lb/day)	4. Emissions Method Code	
5. Emissions Calculation (Show separately both annual and daily emissions calculations)			

1. Pollutant H114 Mercury Compounds		CAS No.	<input type="checkbox"/> Below Threshold <input type="checkbox"/> Not Emitted
2. Annual Emissions (ton/year) 0.07	3. Ozone Season Daily Emissions (lb/day) 0.4	4. Emissions Method Code 1	
5. Emissions Calculation (Show separately both annual and daily emissions calculations) $(0.018 \text{ lb/hr} \times 7,570.8 \text{ hr/yr}) \div 2000 \text{ lb/ton} = 0.068 \text{ ton/yr}$ $(0.018 \text{ lb/hr} \times 20.6 \text{ hr/yr}) = 0.37 \text{ lb/day}$			

1. Pollutant H165 2,3,7,8-Tetrachlorodibenzo-p-dioxin		CAS No. 1746-01-6	<input type="checkbox"/> Below Threshold <input type="checkbox"/> Not Emitted
2. Annual Emissions (ton/year)	3. Ozone Season Daily Emissions (lb/day)	4. Emissions Method Code	
5. Emissions Calculation (Show separately both annual and daily emissions calculations)			

1. Pollutant NOX Nitrogen Oxides		CAS No. 10102-44-0	<input type="checkbox"/> Below Threshold <input type="checkbox"/> Not Emitted
2. Annual Emissions (ton/year) 121.7	3. Ozone Season Daily Emissions (lb/day) 662.3	4. Emissions Method Code 1	
5. Emissions Calculation (Show separately both annual and daily emissions calculations) $(32.15 \text{ lb/hr} \times 7,570.8 \text{ hr/yr}) \div 2000 \text{ lb/ton} = 121.7 \text{ ton/yr}$ $(32.15 \text{ lb/hr} \times 20.6 \text{ hr/day}) = 662.29 \text{ lb/day}$			

*: Pollutant subject to emissions limiting standard or emissions cap

1. Pollutant PB Lead - Total (elemental lead and lead compounds)		CAS No.	<input type="checkbox"/> Below Threshold <input type="checkbox"/> Not Emitted
2. Annual Emissions (ton/year) 4.2	3. Ozone Season Daily Emissions (lb/day) 22.9	4. Emissions Method Code 1	
5. Emissions Calculation (Show separately both annual and daily emissions calculations) $(1.11 \text{ lb/hr} \times 7,570.8 \text{ hr/yr}) \div 2000 \text{ lb/ton} = 4.2 \text{ ton/yr}$ $(1.11 \text{ lb/hr} \times 20.6 \text{ hr/day}) = 22.87 \text{ lb/day}$			

1. Pollutant * PM Particulate Matter - Total		CAS No.	<input type="checkbox"/> Below Threshold <input type="checkbox"/> Not Emitted
2. Annual Emissions (ton/year) 85.4	3. Ozone Season Daily Emissions (lb/day) 464.8	4. Emissions Method Code 1	
5. Emissions Calculation (Show separately both annual and daily emissions calculations) $(22.562 \text{ lb/hr} \times 7,570.8 \text{ hr/yr}) \div 2000 \text{ lb/ton} = 85.41 \text{ ton/yr}$ $(22.562 \text{ lb/hr} \times 20.6 \text{ hr/day}) = 464.78 \text{ lb/day}$			

1. Pollutant PM10 Particulate Matter - PM10		CAS No.	<input type="checkbox"/> Below Threshold <input type="checkbox"/> Not Emitted
2. Annual Emissions (ton/year) 85.4	3. Ozone Season Daily Emissions (lb/day) 464.8	4. Emissions Method Code 1	
5. Emissions Calculation (Show separately both annual and daily emissions calculations) PM₁₀ = PM			

1. Pollutant * SO2 Sulfur Dioxide		CAS No. 7446-09-5	<input type="checkbox"/> Below Threshold <input type="checkbox"/> Not Emitted
2. Annual Emissions (ton/year) 360.0	3. Ozone Season Daily Emissions (lb/day) 1,959.1	4. Emissions Method Code 1	
5. Emissions Calculation (Show separately both annual and daily emissions calculations) $(95.1 \text{ lb/hr} \times 7,570.8 \text{ hr/yr}) \div 2000 \text{ lb/ton} = 359.99 \text{ ton/yr}$ $(95.1 \text{ lb/hr} \times 20.6 \text{ hr/day}) = 1,959.06 \text{ lb/day}$			

*: Pollutant subject to emissions limiting standard or emissions cap

Facility ID : 0250348

Emissions Unit ID : 004

SCC : 1-01-012-02

1. Pollutant * VOC Volatile Organic Compounds		CAS No.	<input type="checkbox"/> Below Threshold <input type="checkbox"/> Not Emitted
2. Annual Emissions (ton/year) 3.6	3. Ozone Season Daily Emissions (lb/day) 19.6	4. Emissions Method Code 1	
5. Emissions Calculation (Show separately both annual and daily emissions calculations) $(0.95 \text{ lb/hr} \times 7,570.8 \text{ hr/yr}) \div 2000 \text{ lb/ton} = 3.59 \text{ ton/yr}$ $(0.95 \text{ lb/hr} \times 20.6 \text{ hr/day}) = 19.57 \text{ lb/day}$			

*: Pollutant subject to emissions limiting standard or emissions cap

MIAMI DADE COUNTY
Resource Recovery
Calendar Year 1998

Boiler 1

Process/Fuel and Operating Schedule Information

Annual process or Fuel Usage rate:	<u>180,288</u>	tons/year
Ozone Season Daily Process or Fuel Usage Rate:	<u>506.69</u>	tons/day
Fuel Average % Sulfur:	<u>0.16</u>	% (As received)
Fuel Average % Ash:	<u>7.31</u>	% (As received)
Fuel Heat Content:	<u>1,740,865</u>	mmBtu/SCCUnit (As received)

Month	Operating Hours
January	672.66
February	586.37
March	466.65
April	575.37
May	566.96
June	640.03
July	546.36
August	702.60
September	574.10
October	711.50
November	646.80
December	556.90
TOTAL	7,246.30

1,812.62

1,608.98

1,888.99

1,932.4

7,242.99

03

2,0097 = 553.59

19.9 hr/day

O₃ = 20.5 hr/day

Emission Information:

Parameter	Date	Lb/hr
Carbon Monoxide		
Dioxin/Furan		
Fluorides-Total		
Dibenzofurans (HOS8)		
Mercury Compounds (H114)	July 98	0.019
2,3,7,8- Tetrachlorodibenzo-p-dioxin (H165)		
Nitrogen oxydes (NOx)		
Lead (Elemental + lead compounds)-Pb		
Particulate Mater (Total)	July 98	33.315
Particulate Mater (PM10)		
Sulfur Dioxide (SO2)		
Volatile Organic Compounds (VOC)		

**MIAMI DADE COUNTY
Resource Recovery
Calendar Year 1998**

Boiler 2

Process/Fuel and Operating Schedule Information

Annual process or Fuel Usage rate:	166,498	tons/year
Ozone Season Daily Process or Fuel Usage Rate:	452.77	tons/day
Fuel Average % Sulfur:	0.16	%
Fuel Average % Ash:	7.31	%
Fuel Heat Content:	1,607,707	mmBtu/SCCUnit

Month	Operating Hours
January	606.64
February	590.80
March	384.90
April	576.61
May	555.96
June	458.11
July	548.43
August	676.00
September	598.10
October	698.70
November	486.10
December	494.90
TOTAL	6,675.25

1,729.64

1,517.47

1,682.54 } O₃

1,782.9

6,712.55 hr

Dec 97: 532.8

O₃ = 18.3 hr/day

Emission Information:

Parameter	Date	LB/hr
Carbon Monoxide	Aug 96	52.15
Dioxin/Furan		
Fluorides-Total		
Dibenzofurans (HOS8)		
Mercury Compounds (H114)	July 98	0.016 ✓
2,3,7,8- Tetrachlorodibenzo-p-dioxin (H165)		
Nitrogen oxydes (NOx)	Aug 96	112.18
Lead (Elemental + lead compounds)-Pb		
Particulate Mater (Total)	July 98	42.257 ✓
Particulate Mater (PM10)		
Sulfur Dioxide (SO2)		
Volatile Organic Compounds (VOC)		

MIAMI DADE COUNTY
Resource Recovery
Calendar Year 1998

Boiler 3

Process/Fuel and Operating Schedule Information

Annual process or Fuel Usage rate: ~~184,141~~ tons/year
Ozone Season Daily Process or Fuel Usage Rate: 478.17 tons/day
Fuel Average % Sulfur: 0.16 %
Fuel Average % Ash: 7.31 %
Fuel Heat Content: 1,778,062 mmBtu/SCCUnit

Month	Operating Hours
January	690.46
February	584.71
March	454.39
April	659.31
May	692.78
June	491.69
July	646.58
August	642.70
September	636.90
October	727.70
November	446.30
December	704.80
TOTAL	7,325.03

Dec 97 651.51

1,926.68

1,806.48

1,780.97

= O₃

1,810.90

7,325.03

O₃ = 19.4 hr/day

Emission Information:

Parameter	Date	Lb/hr
Carbon Monoxide	Aug 96	18.93
Dioxin/Furan		
Fluorides-Total		
Dibenzofurans (HOS8)		
Mercury Compounds (H114)	June 98	0.019 ✓
2,3,7,8- Tetrachlorodibenzo-p-dioxin (H165)		
Nitrogen oxydes (NOx)		
Lead (Elemental + lead compounds)-Pb		
Particulate Mater (Total)	June 98	23.897 ✓
Particulate Mater (PM10)		
Sulfur Dioxide (SO2)		
Volatile Organic Compounds (VOC)		

MIAMI DADE COUNTY
Resource Recovery
Calendar Year 1998

Boiler 4

Process/Fuel and Operating Schedule Information

Annual process or Fuel Usage rate:	<u>190,548</u>	tons/year
Ozone Season Daily Process or Fuel Usage Rate:	<u>509.65</u>	tons/day
Fuel Average % Sulfur:	<u>0.16</u>	%
Fuel Average % Ash:	<u>7.31</u>	%
Fuel Heat Content:	<u>1,839,928</u>	mmBtu/SCCUnit

<u>Month</u>	<u>Operating Hours</u>
January	664.59
February	630.30
March	545.47
April	659.31
May	670.82
June	514.54
July	667.15
August	714.70
September	637.00
October	722.70
November	542.10
December	674.30
TOTAL	7,642.98

1,897.05

1,875.60

1,896.39 = O₃

1,901.80

7,570.84

Dec 97: 602.16

O₃ = 20.6 hr/day

Emission Information:

<u>Parameter</u>	<u>Date</u>	<u>Lb/hr</u>
Carbon Monoxide		
Dioxin/Furan		
Fluorides-Total		
Dibenzofurans (HOS8)		
Mercury Compounds (H114)	June 98	0.018
2,3,7,8- Tetrachlorodibenzo-p-dioxin (H165)		
Nitrogen oxydes (NOx)		
Lead (Elemental + lead compounds)-Pb		
Particulate Mater (Total)	June 98	22.562
Particulate Mater (PM10)		
Sulfur Dioxide (SO2)		
Volatile Organic Compounds (VOC)		

Department of Environmental Protection

DIVISION OF AIR RESOURCES MANAGEMENT

ANNUAL OPERATING REPORT FOR AIR POLLUTANT EMITTING FACILITY

See Instructions for Form No. 62-210.900(5).

I. FACILITY REPORT

A. REPORT INFORMATION

1. Year of Report 1998	2. Number of Emissions Units in Report 1
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B. FACILITY INFORMATION

1. Facility ID 0250603	2. Facility Status ACTIVE	3. Date of Permanent Facility Shutdown
4. Facility Owner/Company Name METRO DADE SOLID WASTE MANAGEMENT		
5. Site Name NORTH DADE LANDFILL		
6. Facility Location Street Address or Other Locator : 21490 N.W.47 AVE. City : MIAMI County : DADE Zip Code : 33055		
7. Facility Compliance Tracking Code A	8. Governmental Facility Code 0	9. Facility SIC(s) 4953
10. Facility Comment UNPERMITTED		

C. FACILITY HISTORY INFORMATION

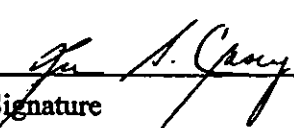
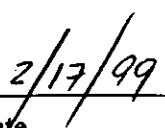
1. Change in Facility Owner/ Company Name During Year?	Previous Name	2. Date of Change
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Facility ID : 0250603

D. OWNER/CONTACT INFORMATION

1. Owner or Authorized Representative	
Name and Title VINCENTE CASTRO ASST. DIRECTOR	
Mailing Address Organization/Firm : METRO DADE SOLID WASTE MGMT Street Address : 8675 NW 53RD ST,SUITE 201 City : MIAMI State : FL Zip Code : 33166	
Telephone : (305)594-1670	Fax : (305)594-1591
2. Facility Contact	
Name and Title LEE CASEY Chief, Environmental Compliance Division	
Mailing Address Organization/Firm : METRO DADE SOLID WASTE MGMT Street Address : 8675 NW 53RD ST,SUITE 201 City : MIAMI State : FL Zip Code : 33166	
Telephone : (305) 594-1670	Fax : (305) 594-1591

E. OWNER OR AUTHORIZED REPRESENTATIVE STATEMENT

I hereby certify that the information given in this report is correct to the best of my knowledge.	
Signature 	Date 

Facility ID : 0250603

Emissions Unit ID : 001

II. EMISSIONS UNIT REPORT

A. EMISSIONS UNIT INFORMATION

1. Emissions Unit Description LANDFILL		
2. Emissions Unit ID 001	3. Emissions Unit Classification	4. Operated During Year? Y
5. DEP Permit or PPS Number	6. Emissions Unit Status ACTIVE	7. Ozone SIP Base Year Emissions Unit? Y
8. Emissions Unit Startup Date	9. Long-term Reserve Shutdown Date	10. Permanent Shutdown Date

B. EMISSION POINT/CONTROL INFORMATION

1. Emissions Point Type SINGLE POINT SERVING A SINGLE EMISSIONS UNIT
2a. Description of Control Equipment 'a'
2b. Description of Control Equipment 'b'

C. EMISSIONS UNIT OPERATING SCHEDULE INFORMATION

1. Average Annual Operation 24 hours/day 7 days/week	2. Total Operation During Year (hours/year) 8,760
3. Percent Hours of Operation by Season DJF : 24.7% MAM : 25.2% JJA : 25.2% SON : 24.9%	
4. Average Ozone Season Operation (June 1 to August 31) 24 hours/day 7 days/week	5. Total Operation During Ozone Season (days/season) 92

Facility ID : 0250603

Emissions Unit ID : 001

D. EMISSIONS UNIT COMMENT

Disposal

Prior years: 7,311,596 tons

This year: 370,397

Total: 7,681,993 tons

Facility ID : 0250603

Emissions Unit ID : 001

SCC :

E. EMISSIONS INFORMATION BY PROCESS/FUEL

(1) PROCESS/FUEL INFORMATION

1. SCC 5-02-006-02	2. Description of Process or Type of Fuel Solid Waste Disposal, Commercial/Institutional Municipal Landfill Dump: Fugitive Emissions	
3. Annual Process or Fuel Usage Rate	4. Ozone Season Daily Process or Fuel Usage Rate	5. SCC Unit Acres of Landfill
6. Fuel Average % Sulfur	7. Fuel Average % Ash	8. Fuel Heat Content (mmBtu/SCC Unit)

(2) EMISSIONS INFORMATION

1. Pollutant VOC Volatile Organic Compounds		CAS No.	<input type="checkbox"/> Below Threshold <input type="checkbox"/> Not Emitted
2. Annual Emissions (ton/year) 271.64	3. Ozone Season Daily Emissions (lb/day) 1,488.44	4. Emissions Method Code 5	
5. Emissions Calculation (Show separately both annual and daily emissions calculations) ton/yr = 7,681,993 tons X F lb/day = (271.64 ton/yr X 200 lb/ton)/365 day/yr			

Emissions Factor from: EPA-450/4-91-016

$$F = [13.6 \text{ tons VOC/yr} \div (1 \times 10^6 \text{ tons})] \times 2.6$$

$$F = 0.00003536$$

TONNAGE LANDFILLED CALENDAR YEAR 1998

	SOUTH DADE	NORTH DADE	RESOURCES RECOVERY ASHFILL
FY1997-98	214,952	359,563	138,892
LESS:			
OCTOBER, 1997	(18,373)	(39,743)	(8,908)
NOVEMBER 1997	(16,219)	(29,685)	(9,314)
DECEMBER 1997	(15,889)	(26,191)	(11,193)
ADD:			
OCTOBER, 1998	17,027	35,328	17,782
NOVEMBER 1998	20,171	40,692	12,008
DECEMBER 1998	17,916	30,433	13,329
TOTAL 1998	<u>219,585</u>	370,397	152,596

SOUTH DADE COUNTY DEPARTMENT OF PUBLIC WORKS
WORKLOAD MEASURES FOR F.Y. 48 (DISPOSAL)
PROJECTED AND ACTUAL REVENUE TONS BY MONTH FOR OCTOBER THRU SEPTEMBER FY1997-98

(QUANTITY IN TONS)	BUDGET FY1997-98	ACTUAL OCT	ACTUAL NOV	ACTUAL DEC	ACTUAL JAN	ACTUAL FEB	ACTUAL MAR	ACTUAL APR	ACTUAL MAY	ACTUAL JUN	ACTUAL JUL	ACTUAL AUG	ACTUAL SEP	BUDGET OCT-SEP	PROJECT OCT-SEP	ACTUAL OCT-SEP	BUDGET DEVIATION OCT-SEP	PROJECT DEVIATION OCT-SEP	PROJECT FY1997-98
NET TONNAGE																			
S DAGE	164,303	18,373	18,219	15,889	20,724	18,980	24,784	23,384	17,518	17,837	19,397	17,082	4,807	164,303	165,841	214,952	50,649	49,111	165,841
N DAGE	235,184	38,743	29,885	26,191	17,885	28,274	36,545	24,226	27,729	34,280	37,105	26,118	31,782	235,184	278,605	359,563	124,379	80,958	278,604
R RECOVERY INCINERATED	601,540	37,957	39,983	44,342	52,014	46,823	36,939	49,731	45,432	46,552	43,463	50,207	61,934	601,540	584,995	555,377	(46,163)	(29,880)	584,995
R RECOVERY ASHFILL	173,701	8,908	9,314	11,193	13,562	11,724	9,488	10,984	11,719	10,430	11,886	15,541	14,341	173,701	161,670	138,892	(34,809)	(22,778)	161,670
CONTRACT DISPOSAL																			
GARBAGE TO MEDLEY	28,839	18,456	9,468	6,191	4,081	2,321	8,544	1,398	3,102	4,346	4,993	3,021	4,299	28,839	41,617	70,220	41,381	28,803	41,617
GARBAGE - NONPROCESSABLES TO MEDLEY	0	0	0	15	0	0	0	0	0	30	0	0	0	0	15	45	45	30	15
RR PROCESSED WASTE TO MEDLEY	0	0	0	0	0	0	8	2,384	367	0	349	32	21	0	0	3,161	3,161	3,161	0
RR RTI REJECTS TO MEDLEY	0	0	0	0	0	0	0	0	0	0	0	0	73	0	0	73	73	73	0
TRASH TO MEDLEY	71,161	1,113	3,503	4,122	3,146	3,942	2,298	3,126	4,004	3,356	2,813	5,830	5,634	71,161	56,368	42,887	(28,274)	(15,461)	56,368
STORM RELATED WASTE TO MEDLEY	0	0	0	0	0	59	0	0	0	0	0	0	0	0	0	59	59	59	0
TRASH TO WHEELABRATOR	100,000	7,700	7,254	10,290	7,267	10,196	8,368	3,571	7,594	6,868	8,013	7,875	7,431	100,000	100,000	92,427	(7,573)	(7,573)	100,000
TOTAL NET TONNAGE DISPOSED	1,374,728	132,250	115,426	118,233	118,679	122,299	126,974	118,804	117,483	123,899	127,821	125,888	130,322	1,374,728	1,391,111	1,477,656	102,928	86,283	1,391,110
FACILITY RECYCLING																			
CLEAN YARD TRASH	0	0	0	0	21	0	0	0	0	0	0	0	0	0	0	21	21	21	0
FERRIOUS FOR RECYCLING	32,705	1,875	1,745	1,969	1,962	2,191	1,634	2,017	2,265	2,056	2,283	2,403	1,987	32,705	29,059	24,187	(8,518)	(4,872)	29,059
FERRIOUS FROM RR ASHFILL RECOVERY	0	0	0	0	0	0	49	238	(25)	0	0	0	0	0	0	262	262	262	0
ALUMINUM CANS FOR RECYCLING	230	14	17	18	18	21	20	103	13	23	18	23	18	230	228	306	76	78	228
TRASH PROCESSING FINER OUT	0	3,589	3,392	3,317	4,377	4,235	3,459	4,388	2,335	3,301	4,303	4,137	4,279	0	10,288	45,102	45,102	34,814	10,288
RTI BIOMASS FUEL	158,520	0	0	0	0	0	0	400	1,577	1,449	989	972	965	158,520	92,470	6,352	(152,168)	(88,118)	92,470
RTI PRIMARY FIBER	44,780	0	0	0	0	0	0	0	1,824	726	811	603	512	44,780	25,110	4,476	(40,284)	(21,634)	25,110
TOTAL FACILITY RECYCLING	236,215	5,278	5,144	5,304	6,378	6,447	5,162	7,146	7,989	7,555	8,404	8,138	7,761	236,215	158,155	80,708	(155,509)	(77,449)	158,155
TONNAGE DIFFERENCE ADJUSTMENT																			
TRANSFER STATION TRANSFER ONLY	0	(1,023)	(2,015)	3,250	(707)	2,574	(396)	(743)	(1,827)	1,947	1,496	(351)	957	0	217	3,362	3,362	3,145	218
FACILITY STAGING AND TRANSFER ADJUSTMENT AT SOUTH DAGE	0	1,041	(1,912)	2,353	2,286	3,005	2,911	(1,503)	1,239	(1,649)	(1,209)	3,518	2,043	0	1,482	12,123	12,123	10,641	1,482
SUBTOTAL FULL FEE REVENUE TONNAGE	1,610,943	134,398	116,643	129,140	126,636	134,325	134,651	123,704	125,064	131,552	136,512	138,991	141,083	1,610,943	1,547,817	1,570,699	(40,244)	22,820	1,547,817
REDUCED FEE COVER MATERIAL	0	0	0	0	283	0	0	0	0	0	0	0	0	0	0	283	283	283	0
SUBTOTAL FULL FEE AND REDUCED FEE REVENUE TONNAGE	1,610,943	134,398	116,643	129,140	126,919	134,325	134,651	123,704	125,064	131,552	136,512	138,991	141,083	1,610,943	1,547,817	1,570,982	(39,961)	22,903	1,547,817
DEMAN CONSTRUCTION TONNAGE																			
OLD SOUTH DAGE CLOSURE TO NORTH DAGE LANDFILL (see note)	0	3,148	0	0	0	0	0	0	0	0	0	0	0	0	3,148	3,148	3,148	0	3,148
TOTAL DEMAN CONSTRUCTION TONNAGE	0	3,148	0	0	0	0	0	0	0	0	0	0	0	0	3,148	3,148	3,148	0	3,148
TOTAL REVENUE TONS	1,610,943	137,546	116,643	129,140	126,919	134,325	134,651	123,704	125,064	131,552	136,512	138,991	141,083	1,610,943	1,550,965	1,574,130	(38,813)	22,903	1,550,965
EQUIVALENT REVENUE TONNAGE (see note 5)	1,610,943	135,295	116,643	129,140	126,699	134,325	134,651	123,704	125,064	131,552	136,512	138,991	141,083	1,610,943	1,548,714	1,571,859	(39,284)	22,945	1,548,714
TRANSFER REVENUE TONS (N)	747,014	55,527	45,784	53,972	52,565	55,428	54,051	50,405	51,213	53,407	49,443	56,070	61,654	747,014	643,058	638,519	(107,495)	(3,540)	643,059
TRANSFER TONNAGE OUT	747,014	56,550	47,799	50,722	53,272	52,854	54,447	51,148	52,840	51,460	47,947	56,421	60,697	747,014	642,842	636,157	(110,857)	(8,685)	642,841
ESTIMATED PERCENTAGE DIFFERENCE BETWEEN																			
TRANSFER STATION IN AND OUT	0.00%	1.84%	4.40%	-6.02%	1.35%	-4.64%	0.73%	1.47%	3.18%	-3.65%	-3.03%	0.63%	-1.55%	0.00%	-0.03%	-0.53%			-0.03%
INTERFACILITY TRANSFER	877,209	43,389	46,457	39,241	50,015	49,564	42,049	50,123	52,492	49,711	55,026	67,815	45,031	877,209	829,757	580,913	(96,296)	(48,844)	829,757
INTERFACILITY TRANSFER BACKHAUL	127,860	14,091	14,555	8,758	16,163	17,389	14,370	16,567	15,858	12,802	15,481	16,540	3,487	127,860	147,025	165,861	38,001	18,836	147,025
HAZARDOUS WASTE TO RECOVERIES RECOVERY	2,887	44	147	116	117	31	42	0	11	115	120	60	58	2,887	2,187	861	(2,026)	(1,326)	2,187
R RECOVERY PUT OR PAY ORSHITE	936,000	67,068	68,694	70,232	88,869	83,304	66,838	87,139	78,889	76,389	79,028	89,726	87,609	936,000	936,000	944,783	8,783	8,783	936,000
R RECOVERY PUT OR PAY RTI	270,000	0	0	0	0	0	0	687	4,333	2,900	2,000	1,750	1,550	270,000	157,500	13,200	(256,800)	(144,300)	157,500

Note 3: Equivalent Revenue Tonnage = Revenue Tonnage without Daily Cover + Daily Cover Tonnage + \$10 + \$45 + Old South Dage Tonnage + \$21.88 + \$45

MIAMI-DADE COUNTY DEPARTMENT OF SOLID WASTE MANAGEMENT
WORKLOAD MEASURES FOR FUND 49 (DISPOSAL)
BUDGETED AND ACTUAL REVENUE TONS FOR OCTOBER - DECEMBER FY1998-99

(QUANTITY IN TONS)	BUDGET FY1998-99	ACTUAL OCT	ACTUAL NOV	BUDGET DEC	ACTUAL DEC	BUDGET DEVIATION DEC	BUDGET OCT-DEC	ACTUAL OCT-DEC	BUDGET DEVIATION OCT-DEC
NET TONNAGE									
S. DADE	171,366	17,027	20,171	13,584	17,916	4,332	37,195	55,114	17,919
N. DADE	180,911	35,328	40,692	13,264	30,433	17,169	41,386	106,453	65,067
R. RECOVERY INCINERATED	594,802	48,133	37,864	49,571	52,467	2,896	148,664	138,464	(10,200)
R. RECOVERY ASHFILL	171,889	17,782	12,008	14,324	13,329	(995)	42,972	43,119	147
CONTRACT DISPOSAL									
GARBAGE TO MEDLEY	9,991	7,463	10,758	851	7,959	7,108	2,401	26,180	23,779
GARBAGE - NONPROCESSABLES TO MEDLEY	0	0	0	0	0	0	0	0	0
RR PROCESSED WASTE TO MEDLEY	0	104	0	0	40	40	0	144	144
RR RTI REJECTS TO MEDLEY	0	0	0	0	0	0	0	0	0
TRASH TO MEDLEY	90,009	6,354	2,244	8,008	2,470	(5,538)	22,598	11,068	(11,530)
STORM RELATED WASTE TO MEDLEY	0	0	0	0	0	0	0	0	0
TRASH TO WHEELABRATOR	100,000	2,880	3,163	8,333	3,055	(5,278)	24,999	9,098	(15,901)
TOTAL NET TONNAGE DISPOSED	1,318,968	135,071	126,900	107,935	127,669	19,734	320,215	389,640	69,425
FACILITY RECYCLING									
CLEAN YARD TRASH	0	0	0	0	0	0	0	0	0
FERROUS FOR RECYCLING	30,107	2,293	1,763	2,505	2,116	(389)	7,563	6,172	(1,391)
ALUMINUM CANS FOR RECYCLING	230	30	85	19	88	69	58	203	145
TRASH PROCESSING FINES OUT	0	4,025	2,086	0	2,945	2,945	0	9,056	9,056
RTI BIOMASS FUEL	158,520	949	850	13,210	962	(12,248)	39,630	2,761	(36,869)
RTI PRIMARY FINES	44,760	446	1,040	3,730	568	(3,162)	11,190	2,054	(9,136)
TOTAL FACILITY RECYCLING	233,617	7,743	5,824	19,464	6,679	(12,785)	58,441	20,246	(38,195)
TONNAGE DIFFERENCE ADJUSTMENT									
TRANSFER STATION TRANSFERS ONLY	0	(2,841)	(151)	0	(358)	(358)	0	(3,350)	(3,350)
FACILITY STAGING AND TRANSFER ADJUSTMENT AT SOUTH DADE	0	844	1,516	0	1,621	1,621	0	3,981	3,981
TOTAL FULL FEE REVENUE TONNAGE	1,552,585	140,817	134,089	127,399	135,611	8,212	378,656	410,517	31,861
TRANSFER REVENUE TONS (IN)	632,515	59,245	56,911	53,236	60,021	6,785	157,879	176,177	18,298
TRANSFER TONNAGE OUT	632,515	62,086	57,062	53,236	60,379	7,143	157,879	179,527	21,648
ESTIMATED PERCENTAGE DIFFERENCE BETWEEN									
TRANSFER STATION IN AND OUT	0.00%	4.80%	0.27%	0.00%	0.60%		0.00%	1.90%	
INTERFACILITY TRANSFERS	676,725	55,608	38,733	56,230	46,209	(9,851)	176,706	140,930	(35,776)
INTERFACILITY TRANSFER BACKHAUL	136,656	13,007	8,192	11,388	11,382	(6)	34,164	32,581	(1,583)
NAMCO FERROUS METALS TO RESOURCES RECOVERY	3,133	100	210	265	70	(195)	747	380	(367)
R. RECOVERY PUT OR PAY ONSITE	936,000	86,352	63,278	78,000	83,534	5,534	234,000	233,164	(836)
R. RECOVERY PUT OR PAY RTI	270,000	1,550	2,100	22,500	1,700	(20,800)	67,500	5,350	(62,150)

DIVISION OF AIR RESOURCES MANAGEMENT

See Instructions for Form No. 62-210.900(5).

A. REPORT INFORMATION

B. FACILITY INFORMATION

C. FACILITY HISTORY INFORMATION

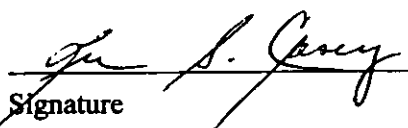
1

Facility ID : 0250623

D. OWNER/CONTACT INFORMATION

1. Owner or Authorized Representative	
Name and Title Vicente Castro Assistant Director	
Mailing Address Organization/Firm : METRO DADE DEPT. OF SOLID WAST Street Address : 8675 N.W. 53RD ST. #201 City : MIAMI State : FL Zip Code : 33166	
Telephone : (305) 594-1670	Fax : (305) 594-1591
2. Facility Contact	
Name and Title Lee S. Casey Chief, Environmental Compliance Division	
Mailing Address Organization/Firm : METRO DADE DEPT. OF SOLID WAST Street Address : 8675 N.W. 53rd Street, #201 City : MIAMI State : FL Zip Code : 33166	
Telephone : (305) 594-1670	Fax : (305) 594-1591

E. OWNER OR AUTHORIZED REPRESENTATIVE STATEMENT

I hereby certify that the information given in this report is correct to the best of my knowledge.	
 Signature	<u>2/17/99</u> Date

Facility ID : 0250623

Emissions Unit ID : 001

II. EMISSIONS UNIT REPORT

A. EMISSIONS UNIT INFORMATION

1. Emissions Unit Description LANDFILL GAS EXTRACTION SYSTEM W/ AN ENCLOSED FLARE		
2. Emissions Unit ID 001	3. Emissions Unit Classification Regulated Emissions Unit	4. Operated During Year? Y
5. DEP Permit or PPS Number 0250623004AC	6. Emissions Unit Status ACTIVE	7. Ozone SIP Base Year Emissions Unit? Y
8. Emissions Unit Startup Date Dec, 1997	9. Long-term Reserve Shutdown Date	10. Permanent Shutdown Date

B. EMISSION POINT/CONTROL INFORMATION

1. Emissions Point Type SINGLE POINT SERVING A SINGLE EMISSIONS UNIT
2a. Description of Control Equipment 'a'
2b. Description of Control Equipment 'b'

C. EMISSIONS UNIT OPERATING SCHEDULE INFORMATION

1. Average Annual Operation 22.5 hours/day 6.5 days/week	2. Total Operation During Year (hours/year) 7,592.5
3. Percent Hours of Operation by Season DJF : 19.6 % MAM : 28.0 % JJA : 26.1 % SON : 26.4 %	
4. Average Ozone Season Operation (June 1 to August 31) 21.5 hours/day 6.5 days/week	5. Total Operation During Ozone Season (days/season) 92

Facility ID : 0250623

Emissions Unit ID : 001

D. EMISSIONS UNIT COMMENT

No emissions test required by permit.

(1) PROCESS/FUEL INFORMATION

1. SCC 5-04-105-63	2. Description of Process or Type of Fuel Thermal Destruction	
3. Annual Process or Fuel Usage Rate 139,842,000 SCF	4. Ozone Season Daily Process or Fuel Usage Rate N/A	5. SCC Unit Tons of Material Processed
6. Fuel Average % Sulfur 66 PPM	7. Fuel Average % Ash N/A	8. Fuel Heat Content (mmBtu/SCC Unit) 565

(2) EMISSIONS INFORMATION

(measured by GEM500)

1. Pollutant CO Carbon Monoxide		CAS No. 630-08-0	<input type="checkbox"/> Below Threshold <input type="checkbox"/> Not Emitted
2. Annual Emissions (ton/year)	3. Ozone Season Daily Emissions (lb/day)	4. Emissions Method Code	
5. Emissions Calculation (Show separately both annual and daily emissions calculations)			

1. Pollutant NOX Nitrogen Oxides		CAS No. 10102-44-0	<input type="checkbox"/> Below Threshold <input type="checkbox"/> Not Emitted
2. Annual Emissions (ton/year)	3. Ozone Season Daily Emissions (lb/day)	4. Emissions Method Code	
5. Emissions Calculation (Show separately both annual and daily emissions calculations)			

1. Pollutant PB Lead - Total (elemental lead and lead compounds)		CAS No.	<input type="checkbox"/> Below Threshold <input type="checkbox"/> Not Emitted
2. Annual Emissions (ton/year)	3. Ozone Season Daily Emissions (lb/day)	4. Emissions Method Code	
5. Emissions Calculation (Show separately both annual and daily emissions calculations)			

*: Pollutant subject to emissions limiting standard or emissions cap

Facility ID : 0250623

Emissions Unit ID : 001

SCC : 5-04-105-63

1. Pollutant PM Particulate Matter - Total		CAS No.	<input type="checkbox"/> Below Threshold <input type="checkbox"/> Not Emitted
2. Annual Emissions (ton/year)	3. Ozone Season Daily Emissions (lb/day)	4. Emissions Method Code	
5. Emissions Calculation (Show separately both annual and daily emissions calculations)			

1. Pollutant PM10 Particulate Matter - PM10		CAS No.	<input type="checkbox"/> Below Threshold <input type="checkbox"/> Not Emitted
2. Annual Emissions (ton/year)	3. Ozone Season Daily Emissions (lb/day)	4. Emissions Method Code	
5. Emissions Calculation (Show separately both annual and daily emissions calculations)			

1. Pollutant SO2 Sulfur Dioxide		CAS No. 7446-09-5	<input type="checkbox"/> Below Threshold <input type="checkbox"/> Not Emitted
2. Annual Emissions (ton/year)	3. Ozone Season Daily Emissions (lb/day)	4. Emissions Method Code	
5. Emissions Calculation (Show separately both annual and daily emissions calculations)			

1. Pollutant VOC Volatile Organic Compounds		CAS No.	<input type="checkbox"/> Below Threshold <input type="checkbox"/> Not Emitted
2. Annual Emissions (ton/year)	3. Ozone Season Daily Emissions (lb/day)	4. Emissions Method Code	
5. Emissions Calculation (Show separately both annual and daily emissions calculations)			

*: Pollutant subject to emissions limiting standard or emissions cap

Facility ID : 0250623

Emissions Unit ID : 001 (a)

II. EMISSIONS UNIT REPORT

A. EMISSIONS UNIT INFORMATION

1. Emissions Unit Description LANDFILL		
2. Emissions Unit ID 001 (a)	3. Emissions Unit Classification	4. Operated During Year? Y
5. DEP Permit or PPS Number	6. Emissions Unit Status ACTIVE	7. Ozone SIP Base Year Emissions Unit? Y
8. Emissions Unit Startup Date	9. Long-term Reserve Shutdown Date	10. Permanent Shutdown Date

B. EMISSION POINT/CONTROL INFORMATION

1. Emissions Point Type SINGLE POINT SERVING A SINGLE EMISSIONS UNIT
2a. Description of Control Equipment 'a'
2b. Description of Control Equipment 'b'

C. EMISSIONS UNIT OPERATING SCHEDULE INFORMATION

1. Average Annual Operation of waste disposal. 24 hours/day 7 days/week	2. Total Operation During Year (hours/year) 8,760
3. Percent Hours of Operation by Season DJF : 24.7% MAM : 25.2% JJA : 25.2% SON : 24.9%	
4. Average Ozone Season Operation (June 1 to August 31) 24 hours/day 7 days/week	5. Total Operation During Ozone Season (days/season) 92

D. EMISSIONS UNIT COMMENT

No emissions test required.

Only VOC calculated from waste disposal.

Disposal

Prior years: 9,903,647 tons

This year: 219,585

Total 10,123,232 tons

(1) PROCESS/FUEL INFORMATION

1. SCC 5-04-105-63	2. Description of Process or Type of Fuel Waste Disposal: Landfill	
3. Annual Process or Fuel Usage Rate	4. Ozone Season Daily Process or Fuel Usage Rate	5. SCC Unit Acres of landfill
6. Fuel Average % Sulfur	7. Fuel Average % Ash	8. Fuel Heat Content (mmBtu/SCC Unit)

(2) EMISSIONS INFORMATION

1. Pollutant CO Carbon Monoxide			CAS No. 630-08-0	<input type="checkbox"/> Below Threshold <input type="checkbox"/> Not Emitted
2. Annual Emissions (ton/year)	3. Ozone Season Daily Emissions (lb/day)	4. Emissions Method Code		
5. Emissions Calculation (Show separately both annual and daily emissions calculations)				
1. Pollutant NOX Nitrogen Oxides			CAS No. 10102-44-0	<input type="checkbox"/> Below Threshold <input type="checkbox"/> Not Emitted
2. Annual Emissions (ton/year)	3. Ozone Season Daily Emissions (lb/day)	4. Emissions Method Code		
5. Emissions Calculation (Show separately both annual and daily emissions calculations)				
1. Pollutant PB Lead - Total (elemental lead and lead compounds)			CAS No.	<input type="checkbox"/> Below Threshold <input type="checkbox"/> Not Emitted
2. Annual Emissions (ton/year)	3. Ozone Season Daily Emissions (lb/day)	4. Emissions Method Code		
5. Emissions Calculation (Show separately both annual and daily emissions calculations)				

*: Pollutant subject to emissions limiting standard or emissions cap

Facility ID : 0250623

Emissions Unit ID : 001 (a)

SCC : 5-04-105-63

1. Pollutant PM Particulate Matter - Total		CAS No.	<input type="checkbox"/> Below Threshold <input type="checkbox"/> Not Emitted
2. Annual Emissions (ton/year)	3. Ozone Season Daily Emissions (lb/day)	4. Emissions Method Code	
5. Emissions Calculation (Show separately both annual and daily emissions calculations)			

1. Pollutant PM10 Particulate Matter - PM10		CAS No.	<input type="checkbox"/> Below Threshold <input type="checkbox"/> Not Emitted
2. Annual Emissions (ton/year)	3. Ozone Season Daily Emissions (lb/day)	4. Emissions Method Code	
5. Emissions Calculation (Show separately both annual and daily emissions calculations)			

1. Pollutant SO2 Sulfur Dioxide		CAS No. 7446-09-5	<input type="checkbox"/> Below Threshold <input type="checkbox"/> Not Emitted
2. Annual Emissions (ton/year)	3. Ozone Season Daily Emissions (lb/day)	4. Emissions Method Code	
5. Emissions Calculation (Show separately both annual and daily emissions calculations)			

1. Pollutant VOC Volatile Organic Compounds		CAS No.	<input type="checkbox"/> Below Threshold <input type="checkbox"/> Not Emitted
(Fugitive Emissions)			
2. Annual Emissions (ton/year) 357.96	3. Ozone Season Daily Emissions (lb/day) 1,961.42	4. Emissions Method Code 5	
5. Emissions Calculation (Show separately both annual and daily emissions calculations)			

$$\text{ton/yr} = 10,123,232 \text{ tons} \times F$$

$$\text{lb/day} = (357.96 \text{ ton/yr} \times 2000 \text{ lb/ton}) / 365 \text{ days/year}$$

Emission Factor from: EPA-450/4-91-016

$$F = [13.6 \text{ tons VOC/yr} \div (1 \times 10^6 \text{ tons})] \times 2.6$$

$$F = 0.00003536$$

*: Pollutant subject to emissions limiting standard or emissions cap

As the Florida Department of Environmental Protection (FDEP) air permit holder, it is required that the DSWM submit an Annual Operating Report (AOR) for the South Dade Landfill.

We are requesting the following information to fill in the FDEP form No. 62-210.900(5) and calculate the total amount of some air pollutant emissions for the calendar year 1998.

EMISSIONS UNIT INFORMATION

*from Luis Moneus
Eng. Div.
Dec.*

Emissions Unit Startup Date: THIS DATE SHOULD BE IN 1997 ✓
Report.

Shutdown date (if any, Permanent or Long-term Reserve): N/A

EMISSIONS UNIT OPERATING SCHEDULE

Operating Hours

December, 1997: LAST YEAR REPORT 136
January, 1998: 682
February, 1998: 668 $\rightarrow 1,486$
March, 1998: 720
April, 1998: 684
May, 1998: 720 $\rightarrow 2,124$
June, 1998: 552
July, 1998: 696.5
August, 1998: 732 $\rightarrow 1,980.5$
September, 1998: 617
October, 1998: 690
November, 1998: 695 $\rightarrow 2,002$
December, 1998: 654

$(Dec - Nov) = 7,592.5 \text{ hrs}$

$(Jan - Dec) = 8,110.5 \text{ hrs}$

Average Annual Operation

Operation During Year

hours/day: ~~676~~ 22.5
days/week: 6.5

$6.5 \times 52 = 338 \text{ days/yr}$
days/week weeks/yr

$7,592.5 \text{ hr/yr} \div 338 \text{ days/yr}$
 $= 22.46 \text{ hrs/day}$

Ozone Season Operation

hours/day: 21.5
days/week: 6.5

$1,980.5 \text{ hr} \div 92 \text{ days} = 21.5 \text{ hrs/day}$

PROCESS/FUEL INFORMATION

Annual Process or Fuel Usage Rate: *139,842,000 scf*
Ozone Season Daily Process or Fuel Usage Rate:
Fuel Average % Sulfur: 60 PPM ✓
Fuel Average % Ash: N/A
Fuel Heat Content (mmBtu/SCC Unit): 565 (measure by GEM500) ✓

EMISSIONS INFORMATION

Carbon Monoxide (lb/hr): N/A
Test date (month/year): N/A

Nitrogen Oxides (lb/hr): N/A
Test date (month, year): N/A

Lead, Total (lb/hr): N/A
Test date (month, year): N/A

Particulate Matter, Total (lb/hr): N/A
Test date (month, year): N/A

Particulate Matter - PM10 (lb/hr): N/A
Test date (month, year): N/A

Sulfur Dioxide (lb/hr): N/A
Test date (month, year): N/A

Volatile Organic Compounds (lb/hr): N/A
Test date (month, year): N/A

Currently, Miami-Dade County is designated by the US Environmental Protection Agency as an attainment area for ozone. For this reason, the AOR must include some questions about the ozone season (June 1 - August 31).

Please, complete the requested information as soon as you can. Let me know if you have any question (x 1774).

TONNAGE LANDFILLED CALENDAR YEAR 1998

	SOUTH DADE	NORTH DADE	RESOURCES RECOVERY ASHFILL
FY1997-98	214,952	359,563	138,892
LESS:			
OCTOBER, 1997	(18,373)	(39,743)	(8,908)
NOVEMBER 1997	(16,219)	(29,685)	(9,314)
DECEMBER 1997	(15,889)	(26,191)	(11,193)
ADD:			
OCTOBER, 1998	17,027	35,328	17,782
NOVEMBER 1998	20,171	40,692	12,008
DECEMBER 1998	17,916	30,433	13,329
TOTAL 1998	219,585	<u>370,397</u>	152,596

WORKLOAD MEASURES FOR FUND 45 (UNAPPORTED)
PROJECTED AND ACTUAL REVENUE TONS BY MONTH FOR OCTOBER THRU SEPTEMBER FY1997-98

(QUANTITY IN TONS)	BUDGET FY1997-98	ACTUAL OCT	ACTUAL NOV	ACTUAL DEC	ACTUAL JAN	ACTUAL FEB	ACTUAL MAR	ACTUAL APR	ACTUAL MAY	ACTUAL JUN	ACTUAL JUL	ACTUAL AUG	ACTUAL SEP	BUDGET OCT-SEP	PROJECT OCT-SEP	ACTUAL OCT-SEP	BUDGET DEVIATION OCT-SEP	PROJECT DEVIATION OCT-SEP	PROJECT FY1997-98
NET TONNAGE																			
B DAGE	184,303	18,373	16,219	15,889	20,724	18,960	24,784	23,384	17,516	17,837	19,397	17,082	4,807	184,303	185,841	214,952	50,849	49,111	185,841
H DAGE	235,184	39,743	29,665	26,191	17,885	28,274	36,545	24,226	27,729	34,280	37,105	26,118	31,782	235,184	278,805	359,563	124,379	80,958	278,804
R RECOVERY INCINERATED	601,540	37,957	39,983	44,342	52,014	46,823	36,939	49,731	45,432	46,552	43,463	50,207	61,934	601,540	584,995	555,377	(48,163)	(29,880)	584,995
R RECOVERY ASH/FILL	173,701	8,908	9,314	11,193	13,562	11,724	9,488	10,884	11,719	10,430	11,888	15,541	14,341	173,701	161,870	138,892	(34,809)	(22,778)	161,870
CONTRACT DISPOSAL																			
GARBAGE TO MEDLEY	28,839	18,458	9,488	6,191	4,081	2,321	8,544	1,398	3,102	4,348	4,993	3,021	4,299	28,839	41,617	70,220	41,381	28,603	41,617
GARBAGE - NONPROCESSABLES TO MEDLEY	0	0	0	15	0	0	0	0	0	30	0	0	0	0	15	45	45	30	15
RR PROCESSED WASTE TO MEDLEY	0	0	0	0	0	0	8	2,384	367	0	349	32	21	0	0	3,161	3,161	3,161	0
RR RTI REJECTS TO MEDLEY	0	0	0	0	0	0	0	0	0	0	0	0	73	0	0	73	73	73	0
TRASH TO MEDLEY	71,181	1,113	3,503	4,122	3,146	3,942	2,298	3,126	4,004	3,356	2,813	5,830	5,834	71,181	58,368	42,887	(28,274)	(15,481)	58,368
STORM RELATED WASTE TO MEDLEY	0	0	0	0	0	59	0	0	0	0	0	0	0	0	0	59	59	59	0
TRASH TO WHEELABRATOR	100,000	7,700	7,254	10,290	7,267	10,196	8,368	3,571	7,594	6,968	8,013	7,875	7,431	100,000	100,000	92,427	(7,573)	(7,573)	100,000
TOTAL NET TONNAGE DISPOSED	1,374,728	132,250	115,426	118,233	118,678	122,299	126,974	118,804	117,463	123,699	127,821	125,688	130,322	1,374,728	1,391,111	1,477,656	102,928	86,283	1,391,110
FACILITY RECYCLING																			
CLEAN YARD TRASH	0	0	0	0	21	0	0	0	0	0	0	0	0	0	0	21	21	21	0
FERRIOUS FOR RECYCLING	32,705	1,675	1,745	1,969	1,962	2,191	1,634	2,017	2,265	2,056	2,263	2,403	1,987	32,705	29,059	24,187	(8,518)	(4,872)	29,059
FERRIOUS FROM RR ASH/FILL RECOVERY	0	0	0	0	0	0	49	238	(25)	0	0	0	0	0	0	262	262	262	0
ALUMINUM CANS FOR RECYCLING	230	14	17	18	18	21	20	103	13	23	18	23	18	230	228	306	78	78	228
TRASH PROCESSING FINES OUT	0	3,589	3,382	3,317	4,377	4,235	3,459	4,388	2,335	3,301	4,303	4,137	4,279	0	10,288	45,102	45,102	34,814	10,288
RTI BIOMASS FUEL	158,520	0	0	0	0	0	0	400	1,577	1,449	989	972	985	158,520	92,470	6,352	(152,168)	(88,118)	92,470
RTI PRIMARY FINES	44,760	0	0	0	0	0	0	0	1,824	726	811	603	512	44,760	28,110	4,476	(40,284)	(21,634)	28,110
TOTAL FACILITY RECYCLING	236,215	5,278	5,144	5,304	6,378	6,447	5,162	7,146	7,989	7,555	8,404	8,136	7,761	236,215	158,155	80,706	(155,509)	(77,449)	158,155
TONNAGE DIFFERENCE ADJUSTMENT																			
TRANSFER STATION TRANSFERS ONLY	0	(1,023)	(2,015)	3,250	(707)	2,574	(396)	(743)	(1,627)	1,947	1,496	(351)	957	0	217	3,362	3,362	3,145	216
FACILITY STAGING AND TRANSFER ADJUSTMENT AT SOUTH DAGE	0	1,041	(1,912)	2,353	2,286	3,005	2,911	(1,503)	1,239	(1,649)	(1,209)	3,518	2,043	0	1,482	12,123	12,123	10,641	1,482
SUBTOTAL FULL FEE REVENUE TONNAGE	1,610,943	134,398	116,643	129,140	126,638	134,325	134,651	123,704	125,084	131,652	136,612	136,991	141,083	1,610,943	1,547,817	1,570,699	(40,244)	22,620	1,547,817
REDUCED FEE COVER MATERIAL	0	0	0	0	283	0	0	0	0	0	0	0	0	0	0	283	283	283	0
SUBTOTAL FULL FEE AND REDUCE FEE REVENUE TONNAGE	1,610,943	134,398	116,643	129,140	126,919	134,325	134,651	123,704	125,084	131,652	136,612	136,991	141,083	1,610,943	1,547,817	1,570,982	(39,961)	22,903	1,547,817
DEMAN CONSTRUCTION TONNAGE																			
OLD SOUTH DAGE CLOSURE TO NORTH DAGE LANDFILL (see note)	0	3,148	0	0	0	0	0	0	0	0	0	0	0	0	3,148	3,148	3,148	0	3,148
TOTAL DEMAN CONSTRUCTION TONNAGE	0	3,148	0	0	0	0	0	0	0	0	0	0	0	0	3,148	3,148	3,148	0	3,148
TOTAL REVENUE TONS	1,610,943	137,546	116,643	129,140	126,919	134,325	134,651	123,704	125,084	131,652	136,612	136,991	141,083	1,610,943	1,550,965	1,574,130	(38,813)	22,903	1,550,965
EQUIVALENT REVENUE TONNAGE (see note 2)	1,610,943	135,295	116,643	129,140	126,699	134,325	134,651	123,704	125,084	131,652	136,612	136,991	141,083	1,610,943	1,548,714	1,571,659	(39,284)	22,948	1,548,714
TRANSFER REVENUE TONS (RM)	747,014	55,527	45,784	53,972	52,565	55,428	54,051	50,405	51,213	53,407	49,443	56,070	61,654	747,014	643,059	639,519	(107,495)	(3,540)	643,059
TRANSFER TONNAGE OUT	747,014	56,550	47,799	50,722	53,272	52,854	54,447	51,148	52,840	51,460	47,947	56,421	60,697	747,014	642,842	636,157	(110,857)	(6,685)	642,841
ESTIMATED PERCENTAGE DIFFERENCE BETWEEN																			
TRANSFER STATION IN AND OUT	0.00%	1.84%	4.40%	-8.02%	1.35%	-4.64%	0.73%	1.47%	3.18%	-3.65%	-3.03%	0.63%	-1.55%	0.00%	-0.03%	-0.53%			-0.03%
INTERFACILITY TRANSFERS	677,209	43,389	46,457	39,241	50,015	48,564	42,049	50,123	52,492	49,711	55,026	57,815	45,031	677,209	629,757	580,913	(96,296)	(48,844)	629,757
INTERFACILITY TRANSFER BACKHAUL	127,880	14,091	14,555	8,758	16,163	17,389	14,370	18,567	15,658	12,802	15,481	16,540	3,487	127,880	147,025	165,861	38,001	18,836	147,025
WASTED FERRIOUS METALS TO RECYCLING RECOVERY	2,887	44	147	116	117	31	42	0	11	115	120	60	58	2,887	2,187	861	(2,026)	(1,326)	2,187
R RECOVERY PUT ON PAY CRISITS	936,000	67,068	69,694	70,232	88,889	83,304	68,836	67,139	78,889	76,389	79,028	89,728	87,809	936,000	936,000	944,783	8,783	8,783	936,000
R RECOVERY PUT ON PAY RTI	270,000	0	0	0	0	0	0	687	4,333	2,900	2,000	1,750	1,550	270,000	157,500	13,200	(256,800)	(144,300)	157,500

Note 2: Equivalent Revenue Tonnage = Revenue Tonnage without Daily Cover + Daily Cover Tonnage + \$10 - \$45 + Old South Dage Tonnage + \$21.89 - \$45

**MIAMI-DADE COUNTY DEPARTMENT OF SOLID WASTE MANAGEMENT
WORKLOAD MEASURES FOR FUND 49 (DISPOSAL)
BUDGETED AND ACTUAL REVENUE TONS FOR OCTOBER - DECEMBER FY1998-99**

(QUANTITY IN TONS)	BUDGET FY1998-99	ACTUAL OCT	ACTUAL NOV	BUDGET DEC	ACTUAL DEC	BUDGET DEVIATION DEC	BUDGET OCT-DEC	ACTUAL OCT-DEC	BUDGET DEVIATION OCT-DEC
NET TONNAGE									
S. DADE	171,366	17,027	20,171	13,584	17,916	4,332	37,195	55,114	17,919
N. DADE	180,911	35,328	40,692	13,264	30,433	17,169	41,386	106,453	65,067
R. RECOVERY INCINERATED	594,802	48,133	37,864	49,571	52,467	2,896	148,664	138,464	(10,200)
R. RECOVERY ASHFILL	171,889	17,782	12,008	14,324	13,329	(995)	42,972	43,119	147
CONTRACT DISPOSAL									
GARBAGE TO MEDLEY	9,991	7,463	10,758	851	7,959	7,108	2,401	26,180	23,779
GARBAGE - NONPROCESSABLES TO MEDLEY	0	0	0	0	0	0	0	0	0
RR PROCESSED WASTE TO MEDLEY	0	104	0	0	40	40	0	144	144
RR RTI REJECTS TO MEDLEY	0	0	0	0	0	0	0	0	0
TRASH TO MEDLEY	90,009	6,354	2,244	8,008	2,470	(5,538)	22,598	11,068	(11,530)
STORM RELATED WASTE TO MEDLEY	0	0	0	0	0	0	0	0	0
TRASH TO WHEELABRATOR	100,000	2,880	3,163	8,333	3,055	(5,278)	24,999	9,098	(15,901)
TOTAL NET TONNAGE DISPOSED	1,318,968	135,071	126,900	107,935	127,669	19,734	320,215	389,640	69,425
FACILITY RECYCLING									
CLEAN YARD TRASH	0	0	0	0	0	0	0	0	0
FERROUS FOR RECYCLING	30,107	2,293	1,763	2,505	2,116	(389)	7,563	6,172	(1,391)
ALUMINUM CANS FOR RECYCLING	230	30	85	19	88	69	58	203	145
TRASH PROCESSING FINES OUT	0	4,025	2,086	0	2,945	2,945	0	9,056	9,056
RTI BIOMASS FUEL	158,520	949	850	13,210	962	(12,248)	39,630	2,761	(36,869)
RTI PRIMARY FINES	44,760	446	1,040	3,730	568	(3,162)	11,190	2,054	(9,136)
TOTAL FACILITY RECYCLING	233,617	7,743	5,824	19,464	6,679	(12,785)	58,441	20,246	(38,195)
TONNAGE DIFFERENCE ADJUSTMENT									
TRANSFER STATION TRANSFERS ONLY	0	(2,841)	(151)	0	(358)	(358)	0	(3,350)	(3,350)
FACILITY STAGING AND TRANSFER ADJUSTMENT AT SOUTH DADE	0	844	1,516	0	1,621	1,621	0	3,981	3,981
TOTAL FULL FEE REVENUE TONNAGE	1,552,585	140,817	134,089	127,399	135,611	8,212	378,656	410,517	31,861
TRANSFER REVENUE TONS (IN)	632,515	59,245	56,911	53,236	60,021	6,785	157,879	176,177	18,298
TRANSFER TONNAGE OUT	632,515	62,086	57,062	53,236	60,379	7,143	157,879	179,527	21,648
ESTIMATED PERCENTAGE DIFFERENCE BETWEEN TRANSFER STATION IN AND OUT	0.00%	4.80%	0.27%	0.00%	0.60%		0.00%	1.90%	
INTERFACILITY TRANSFERS	676,725	55,608	38,733	56,230	46,209	(9,851)	176,706	140,930	(35,776)
INTERFACILITY TRANSFER BACKHAUL	136,656	13,007	8,192	11,388	11,382	(6)	34,164	32,581	(1,583)
HAMCO FERROUS METALS TO RESOURCES RECOVERY	3,133	100	210	265	70	(195)	747	380	(367)
R. RECOVERY PUT OR PAY ONSITE	936,000	86,352	63,278	78,000	83,534	5,534	234,000	233,164	(836)
R. RECOVERY PUT OR PAY RTI	270,000	1,550	2,100	22,500	1,700	(20,800)	67,500	5,350	(62,150)

INTEROFFICE MEMORANDUM

(Draft)

Date: 19-Feb-1999 09:05am
From: Mike Harley TAL
Dept:
Tel No:

To: Alvaro Linero TAL (LINERO_A)
CC: Martin Costello TAL (COSTELLO_M)
CC: Paul Brandl TAL (BRANDL_P)
CC: Matthew Boze TAL (BOZE_M)

Subject: Montenay

This is the written follow-up to our conversation that you requested. We have examined Montenay's December document concerning the proposed testing and monitoring revisions. The proposal to use EPA Method 29 in lieu of the 40 CFR 61 methods 101A, 104, and 108 for mercury, lead, beryllium, and arsenic appears to be satisfactory.

The proposal to be allowed to use EPA Method 26A for HCl emissions is acceptable. As a matter of fact it would be desirable to alter the particulate testing requirement to allow the use of either EPA Method 5 or EPA Method 26A. This will reduce the number of separate tests that the company will need to conduct.

With regard to hydrogen fluoride, we need to know why the testing is required. Where is the HF generated in the municipal waste combustion process? It seems as though someone would have to burn a lot of toothpaste and teflon to generate sufficient HF emissions to require testing. However, it is not possible to decide whether testing is required without seeing the basis. If testing is required, the company needs to continue to use EPA Method 13A or 13B. EPA Methods 26 and 26A are not as well validated for the measurement of compounds such as HF and F-.

Again, we're not sure why a requirement to measure temperature at the baghouse inlet has been included in the permit. The origin appears to be the mercury limits for waste-to-energy facilities in Rule 62-296.416, F.A.C. If the requirement is indeed related to hazardous air pollutant emissions of mercury, it probably should remain in place. Attached is information concerning the procedures for calibration of "K" type thermocouples. The procedure is consistent with that required for soil burners. Based on the calibration procedure, an accuracy of 1% does not appear to be unreasonable.

cc: Goldman
Harley✓

MONTENAY PROJECTS, INC.



February 9, 1999

RECEIVED

FEB 16 1999

Bureau of Air Monitoring
& Mobile Sources

DEPARTMENT OF
ENVIRONMENTAL PROTECTION

FEB 15 1999

SITING COORDINATION

Mr. Hamilton S. Oven, P.E.
Administrator, Siting Coordination Office
Florida Dept. of Environmental Protection
Marjory Stoneman Douglas Building
3900 Commonwealth Blvd.

**Re: Dade County Resources Recovery Facility
Case Number PA 77-08
Conditions of Certification**

Gentlemen,

In accordance with F.A.C. Rule 17-297, Montenay is submitting the attached test protocol for the new Air Quality Control System being installed at the facility.

Test methods for metals are in accordance with proposed permit changes which have been indicated to be acceptable per M. Costello on 12-21-98.

Sincerely,

Terry L. Thornton
Project Manager

Attachments

cc: W. Uchdorf, MDC
F. Screve, MPC
A. Leu, MIC - 88-2229
I.E. Johnson, MIC

reasonable time to conform to the new or additional conditions, and on application of the permittee, the Department may grant additional time.

2. COMPLIANCE DETERMINATIONS

a. STACK TESTING

1) Test Methods

Compliance with emission limitation standards referenced in Specific Condition No. 1 shall be demonstrated using EPA Methods, as specified in 40 CFR Part 60 (Standards of Performance for New Stationary Sources), or 40 CFR Part 61 (National Emission Standards for Hazardous Air Pollutants), or any other method approved by the Department, in accordance with F.A.C. Rule 17-297. A test protocol shall be submitted for approval to the Bureau of Air Regulation at least 90 days prior to testing.

<u>EPA Method</u>	<u>For Determination of</u>
<u>1</u>	<u>Selection of sample site and velocity traverses.</u>
<u>2</u>	<u>Stack gas flow rate when converting concentrations to or from mass emission limits.</u>
<u>3 or 3A</u>	<u>Gas analysis when needed for calculation of molecular weight or percent O₂.</u>
<u>4</u>	<u>Moisture content when converting stack velocity to dry volumetric flow rate for use in converting concentrations in dry gases to or from mass emission limits.</u>
<u>5</u>	<u>Particulate matter (PM) concentration and mass emissions.</u>



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FOR
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1.0

TEST METHODS

A Performance Test shall be performed by the vendor to determine if the complete air Quality Control System performs in accordance with this specification and complete system guarantees of this specification. Each process train shall be tested using performance test procedures subject to Engineer's approval.

All performance testing shall be in accordance with 40 CFR60, Appendix A and 40 CFR 61, Appendix B.

System guarantees shall be demonstrated by stack testing.

1.1

PARTICULATE

1. Three 1-hour runs conducted using EPA Method 5. *or 26A*
2. Three 1-hour runs conducted using EPA Method 201 or 201-A.
3. During particulate stack testing, the correlation between total particulate emissions and continuous opacity measurement ~~must~~ *may* be determined.

1.2

OPACITY

Opacity measurements shall be made ~~in stack~~ by EPA Method 9 ~~or by a properly adjusted and calibrated transmissometer, over an optical path length not to exceed 10 feet. At least 24 readings shall be measured and averaged over a 6 minute period.~~

1.3

SULFUR DIOXIDE

Three 1-hour test runs shall be conducted upstream and downstream of the acid gas control equipment of each train using EPA Method 6C. Such tests of any train must be conducted simultaneously.

1.4

PRESSURE DROP

The system pressure drop shall be determined by measuring the static pressure head using an inclined manometer, at the air preheater outlet pressure port, the spray dryer inlet, the spray dryer outlet test port, for the spray dryer pressure drop (inlet minus outlet readings), and at the ID fan inlet pressure port. The difference in total head shall constitute the system



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pressure drop. At least 8 readings shall be measured and averaged during a 24 hour period.

1.5 LIME CONSUMPTION

Prior to commencement of a test run, the slurry test tank shall be filled to maximum capacity and a sample of the slurry taken. The slaker shall remain off during the test. At the end of the test, tank draw shall be measured using a vertical ruler. At least 8 readings shall be taken and averaged over a 24 hour period. The lime slurry shall be analyzed for density, availability and total solids.

The pebble lime shall be analyzed for reactivity. Methods used shall be ASTM C25 and C110.

1.6 POWER CONSUMPTION

Power consumption shall be measured with a rotating dial kilowatt hour meter at the FGD System's 4160 V and 480V, 3-phase bus feeders. Power consumption shall be measured during and averaged over a 24 hour period. During the test, all equipment not included in the guaranteed value shall be shut off or monitored separately and deducted from the power consumption readings taken. (Items not included: HVAC, lighting, hopper heaters, and heat tracing).

1.7 FLUE GAS TEMPERATURE

The flue gas temperature entering into the baghouse shall be determined by continuously recording from the baghouse inlet temperature port. The recording will be noted to indicate the beginning and completion of the test. The entire recording will show the minimum and will serve as the compliance data for the guaranteed minimum temperature.

↑ and maximum (4 hour Ave)

1.8 COMPRESSED AIR CONSUMPTION

The system compressed air consumption shall be measured by totalizing the air flow measured by the permanently installed nozzle air flow meters (after field calibration of the meters per factory specification) over a 24 hour period.



SPECIFICATION
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1.9 HCL EMISSIONS

Stack emissions of HCl shall be measured by EPA method 26. At least three measurements shall be collected and averaged during an 8 hour test period.

1.10 EMISSIONS

Stack emissions of HF shall be measured by EPA method 13B. At least three measurements shall be collected and averaged during an 8 hour test period.

1.11 SULFURIC ACID EMISSIONS

Stack emissions of Sulfuric Acid mist shall be measured by EPA method 8. At least three measurements shall be collected and averaged during an 8 hour test period.

1.12 DIOXINS / FURANS

Stack emissions of Dioxins and Furans shall be measured by EPA method 23. At least three measurements shall be collected and averaged during an 8 hour test period.

1.13 MERCURY

Three test runs shall be conducted on each train using EPA Multi Metal Test Method, EPA Test Method 29, Test Procedure in accordance with Chapter 17-297 FAC.

1.14 TOXIC METALS

For each listed metal three successive test runs shall be performed using EPA multi-metal test methods. EPA Test Method 29.

- a. Lead
- b. Beryllium
- c. Arsenic
- d. Cadmium
- e. Nickel
- f. ~~HEX~~ Chromium *as chromium*

Delete
since
standard
was removed



SPECIFICATION
FOR
PERFORMANCE TEST

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1.15 ACTIVATED CARBON

During testing catch material from screw feeder, to determine how much carbon is being used. Final method to be determined.

1.16 PCDD/PCDF (ORGANIC EMISSIONS MEASURED AS DIOXIN/FURAN)

Sampling and analysis shall be in accordance with EPA Method 23. Emissions shall be reported as TEQ and total mass corrected to 7% oxygen dry.

1.2 PERFORMANCE TEST QUALIFICATIONS

The following provisions shall apply to the performance testing:

- a. All guarantee performance tests shall be executed by an independent third party experienced in such work and mutually acceptable to engineer and ABBES.
- b. Performance tests shall be conducted with the boiler and FGD equipment operating at steady state conditions. No imposed means shall be used to create test conditions different from normal operating conditions.
- c. Performance tests for SO₂ and particulate emission shall have a minimum duration of one hour.
- d. Engineer will maintain all DFGD system recording devices as well as boiler process and maintenance logs necessary to monitor operation, from the initial equipment start-up date through the final performance testing period.
- e. Vendor will provide ABBES with eight (8) copies of the final test report, including all raw data.


1.3 RESULT ANALYSIS (FOR CONSUMABLES)

This section is applicable to all guarantees *only and not criteria for*

- a. Number of Tests Required

compliance with rules and permit conditions

A minimum of eight (8) tests are required for evaluation.

	<p style="text-align: center;">SPECIFICATION FOR PERFORMANCE TEST</p>	<p>SPECIFICATION NO. 1729-MS-400-001 Rev: 01 DATE: 11/06/98 PAGE: 1</p>
--	---	---

b. Outliers

The arithmetic mean of the data shall be calculated and each of the data points shall be examined for outliers using the Dixon Ratio Test (Reference: "Federal EPA, Quality Assurance Handbook for Air Pollution Measurement Systems - Volume I, Principles") assuming a 95% confidence level. All outliers will be examined to determine if there is an operational explanation and will only be rejected based on the Dixon Ratio Test.

c. t-Test

The t-Test shall be used to determine whether the measured performance meets the guarantees as stated herein. The t-Test, a standard approach used in statistical analysis, shall be based on a 95% confidence level and corresponding number of degrees of freedom. (Reference: "Federal EPA, Quality Handbook for Air Pollution Measurement Systems - Volume I, Principles").

PERMITTEE:
Dade County Department of Solid Waste
Management

Permit Number: PSD-FL-006A
Expiration Date: ~~June 30, 1999~~ November 13,
2000

<u>Pollutant</u>	<u>Emission Limits</u>
(PM)	Particulate emissions from the baghouse shall not exceed 0.011 <u>0.012</u> grains/dry standard ft ³ (gr/dscf), corrected to 7 percent O ₂ (dry basis); 6.6 lbs/hr per unit and 29.0 tons/year per unit.
(PM ₁₀)	Particulate emissions less than 10 micron diameter shall not exceed 0.011 <u>0.012</u> gr/dscf, corrected to 7 percent O ₂ (dry basis); 6.6 lbs/hr per unit and 29.0 tons/year per unit.
(SO ₂)	Sulfur Dioxide emissions shall not exceed 20 <u>29</u> parts per million by volume (ppmvd), corrected to 7 percent O ₂ (dry basis) ; or 70 <u>75</u> percent removal efficiency, whichever is least restrictive, based on a 24-hour daily period (i.e., block; midnight to midnight) geometric mean; not to exceed 70 ppmvd corrected to 7 percent O₂, 0.16 lb/MMBtu per unit, 48.9 lbs/hr per unit, 24-hour block average; and 214.2 tons/year per unit.
(NO _x)	Nitrogen Oxide emissions shall not exceed 280 <u>250</u> ppmvd corrected to 7 percent O ₂ (dry basis); 0.5 lb/MMBtu, 140.3 lbs/hr per unit, 24-hour daily arithmetic average ; and 614.9 tons/year per unit. As specified in 40 CFR 60.33b(d)(1) a facility-wide average emission limit of 230 ppmvd, corrected to 7 percent O ₂ (dry basis), 24-hour average, shall be applied in lieu of the per unit limit provided that the conditions of 40 CFR 60.33b(d)(1) are met.
(CO)	Carbon Monoxide emissions shall not exceed 200 ppmvd at 7 percent O ₂ (dry basis) ; 0.20 lb/MMBtu, 61.1 lbs/hr per unit, 24-hour daily arithmetic average ; and, 267.7 tons/year per unit.
(VOC)	Volatile Organic Compound (Hydrocarbons) emissions shall not exceed 25 ppmvd, corrected to 7 percent O ₂ (dry basis) ; 0.0145 lb/MMBtu, 4.37 lbs/hr per unit and 15.1 tons/yr per unit. Due to

PERMITTEE:

Dade County Department of Solid Waste
Management

Permit Number: PSD-FL-006A

**Expiration Date: ~~June 30, 1999~~ November 13,
2000**

DCRRF's location in a non-attainment area for ozone, the permittee must furnish to the Department evidence (i.e. test results) that this facility emits less than 100 tons per year of hydrocarbons, or must obtain legally enforceable limits for the hydrocarbon emissions from this facility.

(HCl)

Hydrogen Chloride emissions shall not exceed ~~25~~ 29 ppmvd, corrected to 7 percent O₂ (dry basis); or, ~~98~~ 95 percent removal, whichever is least restrictive, ~~not to exceed 78 ppmvd corrected to 7 percent O₂, 0.10 lb/MMBtu, 30.6 lbs/hr per unit, and 134.2 tons/year per unit.~~

(Hg)

Mercury emissions shall not exceed 70 micrograms per dry standard cubic meter (ug/dscm), corrected to 7 percent O₂ (dry basis); or, 20 percent by weight of the mercury in the flue gas upstream of the mercury control device (80 percent reduction by weight) ~~not to exceed 6.1 x 10⁻⁵ lb/MMBtu, or 0.018 lb/hr per unit, and 0.080 ton/year per unit.~~

(Dioxins/Furans)

Emissions of total (tetra-through octa-chlorinated) dibenzo-p dioxins and dibenzofurans shall not exceed ~~60~~ 30 nanograms per standard cubic meter (ng/m₃) corrected to 7 percent O₂ (dry basis) ~~, 5.2 x 10⁻³ lb/MMBtu, 1.6 x 10⁻⁵ lb/hr per unit, and 6.2 x 10⁻⁵ ton/year per unit.~~

(F)

~~Fluoride emissions shall not exceed 843 ug/m₃ corrected to 7 percent O₂ (dry basis), 7.3 x 10⁻⁴ lb/MMBtu, 0.23 lb/hr per unit and 0.97 ton/year per unit.~~

(Cd)

Cadmium emissions shall not exceed ~~15~~ 40 ug/m₃ corrected to 7 percent O₂ (dry basis), ~~0.006 lb/hr per unit and 0.027 ton/year per unit.~~

PERMITTEE:

Dade County Department of Solid Waste
Management

Permit Number: PSD-FL-006A**Expiration Date: June 30, 1999 November 13,
2000**

- ~~(H₂SO₄)~~ Sulfuric Acid Mist emissions shall not exceed 2.1 ppmvd corrected to 7 percent O₂ (dry basis), 0.997 lb/MMBtu, 2.29 lbs/hr per unit and 9.8 tons/year per unit.
- (Pb) Lead emissions shall not exceed 380- 490 ug/m₃ corrected to 7 percent O₂ (dry basis); 3.3×10^{-4} lb/MMBtu, 0.10 lb/hr per unit and 0.44 ton/year per unit.
- ~~(Be)~~ Beryllium emissions shall not exceed 0.46 ug/m₃ corrected to 7 percent O₂ (dry basis); 4.0×10^{-7} lb/MMBtu, 0.00012 lb/hr per unit and 0.0005 ton/yr per unit.
- ~~(As)~~ Arsenic emissions shall not exceed 9.3 ug/m₃ corrected to 7 percent O₂ (dry basis); 3.1×10^{-6} lb/MMBtu, 0.0024 lb/hr per unit and 0.011 ton/yr per unit.
- (VE) There shall be no visible emissions during the lime silo loading operations (i.e., less than 5 percent opacity).
- (VE) Emissions from the biomass and ash silo baghouses, ash conditioning agent silo baghouses, and mercury reactant silo baghouses shall not exceed a particulate matter limit of 0.01 grains/dscf, or visible emissions of 5 percent opacity.
- (VE) Visible emissions from any other baghouse exhaust shall not exceed 10 percent opacity (six minute average).

Pursuant to Rule 62-4.080 F.A.C., for good cause shown and after notice and an administrative hearing, if requested, the Department may require the permittee to conform to new or additional conditions for any regulated pollutants and visible emissions. The Department shall allow the permittee a reasonable time to conform to the new or additional conditions, and on request of the permittee, the Department may grant additional time.

Subj: Dade County RRF permit changes

Date: 12/21/98 12:57:00 PM Eastern Standard Time

From: COSTELLO_M@dep.state.fl.us (Martin Costello TAL 850/488-0114)

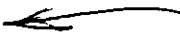
To: anethal@aol.com

CC: LINERO_A@dep.state.fl.us (Alvaro Linero TAL), HARLEY_M@dep.state.fl.us (Mike Harley TAL)

I am reviewing your Dec. 15 request to Al Linero concerning test methods for the Dade County Resource Recovery Facility.

1) On the cover sheet you asked for clarification whether certified CEMS measurements would be acceptable for determining emissions rates during performance tests (both initial and annual). Are you asking to make the plant CEMS the compliance method instead of annual stack testing? This would likely require permit changes which specify the CEMS as the compliance method (with a specified averaging time for the emission limit). Which pollutants do you request compliance by CEMS? Are you aware that annual stack testing (Relative Accuracy Test Audits (RATA)) would be required to qualify assure the CEMS pursuant to 40 CFR 80 Appendix F (the QA procedures in the NSPS in cases where the CEMS is the compliance method). You may already be subject to this QA testing if the current permit requires it (I have not checked).

2) On page 3 you asked to remove the 1% accuracy requirement for the baghouse inlet thermocouple. What accuracy can you meet with a standard thermocouple? Note that 62-297.310 in the table, the stack testing equipment thermocouple is required to be accurate to +/- 5 F. This is approximately 2% accuracy for stack test temperatures of about 250 F. These are standard thermocouples.

3) The proposed test methods for HCL, Pb, Hg, HF, H2SO4, Be, and Ar are acceptable and can be incorporated as a permit amendment. 

You can call me (850 921-9511) or return my e-mail with any questions.

Sincerely,

Martin Costello, P.E.
Emissions Monitoring Section
Department of Environmental Protection
Tallahassee, FL

Headers

Return-Path: <COSTELLO_M@dep.state.fl.us>

Received: from rly-zd02.mx.aol.com (rly-zd02.mail.aol.com [172.31.33.226]) by air-zd05.mail.aol.com (v53.29) with SMTP; Mon, 21 Dec 1998 12:56:59 -0500

Received: from epic66.dep.state.fl.us (epic66.dep.state.fl.us [199.73.128.6])

by rly-zd02.mx.aol.com (8.8.8/8.8.5/AOL-4.0.0)
with ESMTP id MAA11949 for <anethal@aol.com>;
Mon, 21 Dec 1998 12:56:58 -0500 (EST)

Received: from mr.dep.state.fl.us by EPIC66.DEP.STATE.FL.US (PMDF V5.1-4 #7204)
id <01J5UOW0ZZ4000S65@EPIC66.DEP.STATE.FL.US> for anethal@aol.com; Mon,
21 Dec 1998 11:37:50 EDT

Received: with PMDF-MR; Mon, 21 Dec 1998 11:19:03 -0400 (EDT)

MR-Received: by mta DER1; Relayed: Mon, 21 Dec 1998 11:19:03 -0400

MR-Received: by mta EPIC66; Relayed; Mon, 21 Dec 1998 11:19:07 -0400

Alternate-recipient: prohibited

Date: Mon, 21 Dec 1998 11:19:02 -0400 (EDT)



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DEC 18 1998

**BUREAU OF
AIR REGULATION**

December 15, 1998

Mr. Al Linero
Department of Air Resources Management
Florida Department of Environmental Protection
Twin Towers Office Building
2600 Blair Stone Road
Tallahassee, FL 32399-2400

Re: Dade County Resource Recovery Facility
PSD-FL-006A & PA 77-08 - Monitoring & Measurement Methods

Dear Mr. Linero:

The purpose of the inquiry is to clarify and agree to monitoring and measurement methods, which apply to the Miami Dade County Resources Recovery Facility. This inquiry is being made on behalf of the facility owner (Dade County Department of Solid Waste Management - DSWM) by the facility operator (Montenay Power Corp - MPC.). MPC is currently attempting to contract for the performance and demonstration testing for the facility which will be done in June 1999, and thus, needs to be able to inform the contractors of the methods to be used.

Discrepancies exist in the test methods which apply to the facility as stated in the site permits and applications - the Prevention of Significant Deterioration Permit, the Conditions of Certification, and the Title V operating permit application - and the new federal requirements 40 CFR 60 Subpart Cb. These differences, and the proposed changes, were discussed recently at a meeting with FDEP and are repeated in the attachment to this letter. Essentially, DSWM and MPC are requesting that the test methods and monitoring instrument accuracy standards be made consistent with the federal requirements. Additionally, we need to verify that certified CEMs measurements will be acceptable for determining emissions rates during performance and demonstration testing and during annual stack testing.

If possible, a response to this matter would be appreciated as soon as possible. DSWM will then follow with applications to modify all affected permits to reflect the methods that have been agreed to.

Please contact me by telephone or e-mail at anethal@aol.com with any questions on this request. Thank you for your assistance.

Sincerely,

D. Anetha Lue, P.E.
Environmental Coordinator, MIC

montenay international corp.

3225 aviation avenue, 4th floor, miami, florida 33133 (305) 854-2229 fax (305) 854-2272

December 15, 1998

cc: H. Oven – FDEP, Power Plant Siting Office
E. Anderson - DERM
E. Delosantos – FDEP, Palm Beach
L. Casey – DSWM
V. Castro - DSWM
F. Screve – MPC
B. Gilbert – MPC
E. Johnson – BMI
A. Lue - MIC

Attachment to FDEP Letter – DCRRF Monitoring Methods

PARAMETER	40 CFR Subpart Cb Method	DCRRF Permit Method ¹	Proposed Permit Revision
Hydrochloric Acid	26 or 26A	26	add method 26A as option
Lead	29	12	change to 29
Mercury	29	101A	change to 29
Hydrogen Fluoride	-	13 or 13B	add method 26 & 26A to allow HF testing with HCl run
Sulfuric Acid Mist	-	-	use method 8
Beryllium	-	104	add method 29 as option
Arsenic	-	108	add method 29 as option
Baghouse Inlet Temperature	monitor (accuracy of monitor not specified)	monitor & certify monitor to 1% accuracy	remove certification requirement for 1% accuracy as requirement cannot be met by standard thermocouple.

¹ Methods are contained in COC and PSD permits, and in Title V permit application.

Date: 9/10/98 6:07:12 PM
From: Alvaro Linero TAL
Subject: FWD: Dade County RRF - PSD FL 006A
To: Scott Sheplak TAL
Cindy Phillips TAL
CC: Teresa Heron TAL
Steven Palmer TAL

Scott. Can you guys take over setting up the meeting with Dade? Unless we are "relaxing" a permit condition, I don't see any construction permitting.

Feel free to set up meeting with Steve Palmer instead of Buck. Clair does not need to be there either. I'm available if you want me there.

MACT can be implemented through Title V Permitting. At least EPA seems to be trying to implement MACTs that way where feasible. I recommend processing that Title V permit early. In any case, if you want others there, let them know.

Candidates are:

Teresa - Writer of the PSD permit
Joe - Knowledgeable about solid waste matters
Mike Hewett - Knows about Implementation Schedule for RRF's
Mike Harley - Monitoring issues
Ed Svec - RRF permitting

We just need to establish clearly who is the lead person on the matter and let that person get input from everyone else. Thank you. Al.

Kim - To the
New (or re-activated)
Dade (Monteray) RRF file.

Buck,

Can Ed set this
meeting up? If not

Cindy can.

Scott
9/30

10-29-98

Scott/Linero,

Sh

This does not seem to
be any different than
McKay Bay, which was
handled by Joe Kahn in
the new source review (NSR)
section (A1). Therefore,
this is a NSR jurisdiction
not Title V.

shubbs
Bum

① Clair - Teresa set up meeting.

② Scott - We will go ahead
and set up meeting.

F.Y.I. McKay was much
different since it involves
massive reconstruction of
boilers and a production
increase. Dade is a
straight pollution control project with
no emissions increases.

Al



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SEP 04 1998

BUREAU OF
AIR REGULATION

August 31, 1998

Mr. Hamilton Oven
Office of Siting Coordinator
Florida Department of Environmental Protection
2699 Blair Stone Road
Tallahassee, FL 32399-2400

Mr. Clair Fancy
Department of Air Resources Management
Florida Department of Environmental Protection
Twin Towers Office Building
2600 Blair Stone Road
Tallahassee, FL 32399-2400

Re: Dade County Resource Recovery Facility
PA 77-08 & PSD-FL-006A

Dear Messrs. Oven & Fancy:

As permittee for the Miami Dade County Resource Recovery Facility the Department of Solid Waste Management (DSWM) is in the process of establishing a start-up schedule for the facility retrofit project, and is seeking FDEP's assistance in this matter. You may recall that Permits PA77-08 and PSD-FL-006A were issued to allow the upgrade of the air pollution control systems for the combustion units using baghouses, scrubbers and carbon injection, and to allow the installation of continuous emission monitors. It is anticipated that these upgrades will be completed by June 1999, and that the units will, at that time, meet the emission standards of the permit for which controls were installed - i.e. particulate matter, sulfur oxides, hydrogen chloride, metals and organics. When the retrofit project was permitted, the plan was to proceed with these changes in advance of the MACT requirements and to follow with any remaining changes needed to meet the final standard by the MACT deadline. Thus, in keeping with this approach we are proposing that initial performance and demonstration testing of the units be conducted after all of the initially planned changes are made.

8675 Northwest 53 Street, Suite 201, Miami, Florida 33166 • 305-592-1776

"Love Your Neighbor"



Printed on Recycled Paper

Messrs. Oven & Fancy
August 31, 1998
Page 2

After those upgrades are completed in June 1999, we plan to use the data from the continuous emissions monitoring system (CEMS) to finalize the control system design for CO and NO_x, and to complete the procurement and installation of any necessary additional controls. These additional activities, including performance and demonstration testing for all emissions and operational parameters, and for the CEMS, will be completed by December 19, 2000, which is consistent with the facility's Compliance Plan for MACT (40 CFR 60 Subpart Cb) which was accepted by FDEP.

If FDEP finds this proposal acceptable, it first will be necessary to extend the expiration date of the Prevention of Significant Deterioration (PSD) permit from June 30, 1999, to December 20, 2000. Please advise us how to proceed with such a request for extension. Additionally should more controls be necessary, a revision to the permit will also be needed to reflect any control equipment changes. In scheduling these activities, it would be prudent to consider and include the permit amendments which will be needed to make the existing Conditions of Certification (COC) and PSD permits consistent with MACT. Our objective in making these changes will be to, as far as is possible, minimize the number of revisions that need to be made, thus FDEP's guidance and active input will be needed.

Given that there are a few inter-related activities associated with the start-up schedule, as discussed above, it may be helpful to meet in order to ensure that we fully understand FDEP's time requirements related to these activities. Therefore, if possible, we DSWM and our operator - Montenay Power Corp. - would like to meet with you, and other appropriate FDEP staff, this month to review this proposal. We will contact you to determine your availability.

Thank you for your prompt attention to this matter,

Sincerely,



Vicente Castro
Assistant Director
Technical Services

cc: J. Ruiz - DSWM
J. Lurix - FDEP Palm Beach
L. Casey - DSWM
L. Moreno - DSWM
F. Screve - MPC
B. Gilbert - MPC
E. Johnson - BMI
A. Lue - MIC

(5) Test Methods and Procedures. All emissions tests performed pursuant to the requirements of this rule comply with the following requirements.

(a) The test method for visible emissions shall be EPA Method 9, incorporated and adopted by reference in Chapter 62-297, F.A.C.

(b) The test method for particulate emissions shall be EPA Method 5, incorporated and adopted by reference in Chapter 62-297, F.A.C. The minimum sample volume shall be 30 dry standard cubic feet.

(c) The test method for carbon monoxide shall be EPA Method 10, incorporated and adopted by reference in Chapter 62-297, F.A.C.

(d) Test procedures shall meet all applicable requirements of Chapter 62-297, F.A.C.

(6) Continuous Emissions Monitoring Requirements. Any facility subject to this rule shall be equipped with instruments to continuously monitor and record the temperature and the carbon monoxide concentration of the flue gases leaving the high temperature zone, but before any dilution air is mixed with the flue gases. The temperature monitor shall be certified by the manufacturer to be accurate to within 1% of the temperature being measured. The temperature monitoring system shall be calibrated at least annually by the procedure recommended by the manufacturer. The calibration shall be at a minimum of three temperatures and over a range from 10% below to 10% above the designed flue gas hot zone temperature of the soil thermal treatment facility. Calibration records shall be kept for a minimum of three years. The carbon monoxide monitor shall be certified by the manufacturer to be accurate to within 10% of the carbon monoxide concentration by volume, mean value, or 5% of the applicable standard of 100 ppm, whichever is greater, as determined by EPA Test Method 10 in 40 CFR Part 60, Appendix A, adopted by reference in Rule 62-204.800(7), F.A.C. The carbon monoxide continuous emission monitoring device shall be certified, calibrated, and operated according to Performance Specification 4 of 40 CFR Part 60, Appendix B, adopted by reference in Rule 62-204.800(7), F.A.C., excluding Section 5.2, Calibration Drift Test Period, of Performance Specification 2. Specific Authority 403.061, FS.

Law Implemented 403.021, 403.031, 403.061, 403.087, FS.

History -- Formerly 17-2.100; Amended 11-62-92; Formerly 17-296.415; Amended 11-23-94, 1-1-96, 3-13-96.

62-296.416 Waste-to-Energy Facilities.

(1) Applicability. The requirements of this rule apply to all waste-to-energy facilities with charging rates of 40 tons per day or more. For those facilities subject to this rule and Rule 62-204.800(8)(b), F.A.C., the mercury emissions limiting standards in this rule shall apply in place of the less restrictive mercury emission limiting standard set forth at Rule 62-204.800(8)(b), F.A.C. However, the mercury percent reduction standard (85 percent) in Rule 62-204.800(8)(b), F.A.C., shall apply in place of the less restrictive mercury percent reduction standard (80 percent) set forth in this rule.

Effective 11-13-97

(2) Relationship to Best Available Control Technology. The emission limitations in this rule supersede any less stringent emission limitations including those based on a best available control technology (BACT) determination made pursuant to Rule 62-212.400, F.A.C., or 40 CFR 52.21. The application of BACT shall not result in emissions of any air contaminant which exceeds the emission limits set forth in this rule.

(3) Mercury Emissions Limiting Standards. Waste-to-energy facilities subject to the requirements of this rule shall comply with the mercury emission limiting standards of Rule 62-296.416(3)(a) or (b), F.A.C., depending on whether the facility chooses to control mercury emissions through the use of post-combustion control equipment designed to remove mercury from flue gases or mercury waste separation, respectively. Facilities choosing to control mercury emissions through the use of mercury control equipment must also comply with the flue gas temperature standard of Rule 62-296.416(4), F.A.C.

(a) Emissions Standard for Facilities Using Mercury Control Equipment.

1. Mercury emissions from facilities using post-combustion control equipment designed to remove mercury from flue gases shall not exceed 70 micrograms per dry standard cubic meter of flue gas, corrected to 7 percent O₂, or 20 percent by weight of the mercury in the flue gas upstream of the mercury control device (80 percent reduction by weight), whichever occurs first.

2. Facilities with sulfur dioxide and hydrogen chloride control equipment in place or under construction as of July 1, 1993, and which choose to control mercury emissions through the use of mercury control equipment, shall comply with the mercury emissions limiting standard of Rule 62-296.416(3)(a)1., F.A.C., by July 1, 1995. All other facilities choosing to control mercury emissions through the use of mercury control equipment shall comply with the mercury emissions limiting standard of Rule 62-296.416(3)(a)1., F.A.C., by the date that the facility is required to demonstrate compliance with sulfur dioxide and hydrogen chloride emission limits, which limits are established at Rule 62-204.800(8)(b), F.A.C.

3. Facilities subject to the mercury emissions limiting standard of Rule 62-296.416(3)(a)1., F.A.C., shall demonstrate individual emissions unit compliance by the compliance date specified in Rule 62-296.416(3)(a)2., F.A.C., and annually thereafter.

(b) Emissions Standards for Facilities Using Waste Separation. The Department recognizes that reduction of mercury emissions from waste-to-energy facilities may be achieved by implementation of mercury waste separation programs. Such programs would require removal of objects containing mercury from the waste stream before the waste is used as a fuel.

1. Facilities with sulfur dioxide and hydrogen chloride control equipment in place or under construction as of July 1, 1993, and which choose to control mercury emissions exclusively through the use of a waste separation program, shall submit a

program plan to the Department by March 1, 1994, and shall comply with the following emissions limiting schedule.

a. After July 1, 1995, mercury emissions shall not exceed 140 micrograms per dry standard cubic meter of flue gas, corrected to 7 percent O₂.

b. After July 1, 1997, mercury emissions shall not exceed 70 micrograms per dry standard cubic meter of flue gas, corrected to 7 percent O₂.

2. Beginning no later than July 1, 1994, facilities subject to Rule 62-296.416(3)(b)1., F.A.C., shall perform semiannual individual emissions unit mercury emissions tests. Facilities shall stagger the semiannual testing of individual emissions units such that at least one test is performed quarterly. All tests conducted after July 1, 1995, shall be used to demonstrate compliance with the mercury emissions limiting standards of Rule 62-296.416(3)(b)1., F.A.C.

3. Facilities which do not have sulfur dioxide and hydrogen chloride control equipment in place or under construction as of July 1, 1993, and which choose to control mercury emissions exclusively through the use of a waste separation program, shall comply with a mercury emission limitation of 70 micrograms per dry standard cubic meter of flue gas, corrected to 7 percent O₂, by the later of July 1, 1997, or the date that the facility is required to demonstrate compliance with sulfur dioxide and hydrogen chloride emission limits, which limits are established after July 1, 1993. If the facility is required to demonstrate compliance with sulfur dioxide and hydrogen chloride emission limits by a date prior to July 1, 1997, it shall comply with a mercury emission limitation of 140 micrograms per dry standard cubic meter of flue gas, corrected to 7 percent O₂, by that date and until July 1, 1997.

4. Facilities subject to Rule 62-296.416(3)(b)3., F.A.C., shall demonstrate individual emissions unit compliance with the mercury emission limiting standard by the date specified therein and semiannually thereafter. Facilities shall stagger the semiannual testing of individual emissions units such that at least one test is performed quarterly.

(c) Mercury Emissions Inventory. For emissions inventory purposes, all waste-to-energy facilities with charging rates of 40 tons or more per day shall perform annual individual emissions unit mercury emissions tests and report the results to the Department. This testing shall begin during calendar year 1993 and end upon initiation of mercury testing pursuant to Rule 62-296.416(3)(a) or (b), F.A.C.

(d) Mercury Emissions Test Method and Procedures. All mercury emissions tests performed pursuant to the requirements of this rule shall comply with the following provisions.

1. The test method for mercury shall be EPA Method 29 adopted in Rule 62-297, F.A.C.

2. Test procedures shall meet all applicable requirements of Rule 62-297, F.A.C.

(4) Flue Gas Temperature Standard. Waste-to-energy facilities choosing to control mercury emissions through the use of post-combustion control equipment

designed to remove mercury from flue gases shall comply with the flue gas temperature standard of Rule 62-296.416(4)(a), F.A.C.

(a) Temperature Standard. The flue gas temperature standard set forth in 40 CFR 60.53b(c), incorporated by reference in Rule 62-2-4.800, F.A.C., shall apply.

(b) Temperature Monitoring. The temperature monitoring requirements set forth in 40 CFR 60.58b(i), incorporated by reference in Rule 62-204.800, F.A.C., shall apply.

(5) Carbon Usage Rate. The carbon injection rate operating standard and monitoring requirements set forth in 40 CFR 60.58b(m), incorporated by reference in Rule 62-204.800, F.A.C.; shall apply.

(6) Review of Standards. The Department shall review the mercury emission limits contained in Rule 62-296.416(3), F.A.C., and make recommendations to the Environmental Regulation Commission on revising the mercury emission limits no later than July 1, 1998. The review shall include an examination of available mercury emissions data and advances in mercury control technologies and mercury source separation techniques.

Specific Authority 403.061, FS

Law Implemented 403.021, 403.031, 403.061, 403.087, FS.

History -- New 10-5-93; Formerly 17-296.416; Amended 11-23-94, 1-1-96, 10-20-96.

62-296.417 Volume Reduction, Mercury Recovery and Mercury Reclamation.

The terms volume reduction process, mercury recovery process and mercury reclamation process are intended to have the same meanings as volume reduction facility, mercury recovery facility and mercury reclamation facility, respectively, as defined in Rule 62-737.200, F.A.C. The term facility as used in this rule is intended to have the meaning as defined in Rule 62-210.200, F.A.C. The following standards apply to all new and existing volume reduction, mercury recovery and mercury reclamation processes except those exempted in Rule 62-210.300(3), F.A.C.

(1) Operating Requirements. Facilities subject to this rule shall meet all operating requirements set forth herein, except that a facility may choose to control mercury emissions through the use of dual air handling systems or a single air handling system with redundant mercury controls, pursuant to either Rule 62-296.417(1)(c) or (d), F.A.C., respectively.

(a) Permissible Exposure Limit. The United States Occupational Safety and Health Administration (OSHA) permissible exposure limit for mercury vapor, set forth in 29 CFR 1910.1000, is hereby adopted and incorporated by reference.

(b) Negative Pressure Requirement for Processing Area. The area in which the processing equipment is located shall be fully enclosed and kept under negative pressure while processing mercury-containing lamps or devices. The term processing equipment is intended to have the meaning as defined in Rule 62-737.200, F.A.C.

(c) Facilities with Dual Air Handling Systems.

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1. The owner or operator shall install a primary air handling system with air pollution control equipment in order to reduce the mercury content of the air collected during the volume reduction and mercury recovery and reclamation processes.
2. The air collected by the primary system shall be vented within a fully enclosed area of the facility after the air is filtered through the air pollution control equipment.
3. Once each day the facility processes any mercury- containing lamps or devices and while mercury-containing lamps or devices are being processed, a sample of air shall be collected within the fully enclosed area of the facility in which the air collected by the primary air handling system is vented. The mercury content of the sample shall be determined for comparison with the OSHA permissible exposure limit. The terms mercury-containing lamps and mercury- containing devices are intended to have the meanings as defined in Rule 62-737.200, F.A.C.
4. The owner or operator shall operate, monitor and maintain the primary system air pollution control equipment in such a manner as not to exceed the OSHA permissible exposure limit for mercury vapor within the fully enclosed area of the facility in which the air collected by the primary air handling system is vented.
5. The owner or operator shall install a secondary air handling system in order to maintain negative pressure in the fully enclosed area of the facility in which the air collected by the primary system is vented.
6. The owner or operator shall install, operate, monitor and maintain air pollution control equipment in order to reduce the mercury content of the air collected by the secondary air handling system.
7. The primary system with air pollution controls shall be independent and separate from the secondary system with air pollution controls. The primary and secondary system air pollution controls shall incorporate carbon filters or equivalent technology.

(d) Facilities Using a Single Air Handling System with Redundant Mercury Controls.

1. The owner or operator shall operate, monitor and maintain an air handling system with redundant air pollution control equipment in order to reduce the mercury content of the air collected during the volume reduction and mercury recovery and reclamation processes.
2. Redundant air pollution control equipment shall incorporate at least two carbon filters or equivalent technology arranged in series so that the air passes through both filters before being released. Each filter shall be designed as to ensure compliance with the OSHA permissible exposure limit for mercury vapor at the emission point in the event of a single filter failure.
3. Once each day the facility processes any mercury- containing lamps or devices and while mercury-containing lamps or devices are being processed, a sample of air shall be collected downstream of the first carbon filter (or equivalent technology)

and upstream of the second. The mercury content of the sample shall be determined for comparison with the OSHA permissible exposure limit.

4. The owner or operator shall operate, monitor and maintain the air pollution control equipment in such a manner as not to exceed the OSHA permissible exposure limit for mercury vapor downstream of the first carbon filter (or equivalent technology) and upstream of the second.

(2) Recordkeeping Requirements. The owner or operator of a facility subject to this rule shall maintain records of monitoring information that specify the date, place, and time of measurement; the methodology used; and the analytical results. These shall include all calibration and maintenance records of monitoring equipment. The owner or operator shall retain records of all monitoring data and supporting information, available for Department inspection, for a period of at least five years from the date of collection.

Specific Authority 403.061, 403.087, FS.

Law Implemented 403.021, 403.031, 403.061, 403.087, FS.

History -- New 10-16-95, Amended 3-13-96.

**62-296.500 Reasonably Available Control Technology
(RACT) - Volatile Organic Compounds (VOC) and Nitrogen Oxides (NOx) Emitting Facilities.**

(1) Applicability.

(a) The specific emission limiting standards and other requirements of Rules 62-296.500 through 62-296.516, F.A.C., shall apply to existing VOC-emitting facilities in all designated ozone nonattainment and air quality maintenance areas. In addition, the emission limiting standards of these rules shall apply to new and modified VOC-emitting facilities in all designated ozone nonattainment and air quality maintenance areas except those new and modified VOC-emitting facilities which have been or would be subject to review pursuant to 40 CFR 52.21 or Rule 17-2.17 (repealed), 17-2.500 (transferred), 17-2.510 (transferred), 62-212.400 or 62-212.500, F.A.C.

(b) In addition to the applicable requirements of this rule the specific emission limiting standards and other requirements of Rule 62-296.570, F.A.C., shall apply in Broward, Dade, and Palm Beach counties to major VOC-emitting facilities not regulated in whole under Rules 62-296.501 through 62-296.516, F.A.C., and major NOx-emitting facilities, except those new and modified major VOC- and NOx-emitting facilities which have been or would be subject to review pursuant to 40 CFR 52.21 or Rule 17-2.17 (repealed,) 17-2.500 (transferred), 17-2.510 (transferred), 62-212.400, or 62-212.500, F.A.C.

(2) Permit, Recordkeeping, and Compliance Reporting Requirements.

(a) Permits - Special Considerations.

1. Permits to construct or operate are required for all emissions units subject to a specific emission limiting standard or other requirement of Rules 62-296.501

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Method 10 in 40 CFR Part 60, Appendix A, adopted by reference in Rule 62-204.800(7), F.A.C. The carbon monoxide continuous emission monitoring device shall be certified, calibrated, and operated according to Performance Specification 4 of 40 CFR Part 60, Appendix B, adopted by reference in Rule 62-204.800(7), F.A.C., excluding Section 5.2, Calibration Drift Test Period, of Performance Specification 2. Specific Authority 403.061, FS.

Law Implemented 403.021, 403.031, 403.061, 403.087, FS.

History -- Formerly 17-2.100; Amended 11-62-92; Formerly 17-296.415; Amended 11-23-94, 1-1-96, 3-13-96.

62-296.416 Waste-to-Energy Facilities.

(1) **Applicability.** The requirements of this rule apply to all waste-to-energy facilities with charging rates of 40 tons per day or more. For those facilities subject to this rule and Rule 62-204.800(8)(b), F.A.C., the mercury emissions limiting standards in this rule shall apply in place of the less restrictive mercury emission limiting standard set forth at Rule 62-204.800(8)(b), F.A.C. However, the mercury percent reduction standard (85 percent) in Rule 62-204.800(8)(b), F.A.C., shall apply in place of the less restrictive mercury percent reduction standard (80 percent) set forth in this rule.

(2) **Relationship to Best Available Control Technology.** The emission limitations in this rule supersede any less stringent emission limitations including those based on a best available control technology (BACT) determination made pursuant to Rule 62-212.400, F.A.C., or 40 CFR 52.21. The application of BACT shall not result in emissions of any air contaminant which exceeds the emission limits set forth in this rule.

(3) **Mercury Emissions Limiting Standards.** Waste-to-energy facilities subject to the requirements of this rule shall comply with the mercury emission limiting standards of Rule 62-296.416(3)(a) or (b), F.A.C., depending on whether the facility chooses to control mercury emissions through the use of post-combustion control equipment designed to remove mercury from flue gases or mercury waste separation, respectively. Facilities choosing to control mercury emissions through the use of mercury control equipment must also comply with the flue gas temperature standard of Rule 62-296.416(4), F.A.C.

(a) **Emissions Standard for Facilities Using Mercury Control Equipment.**

1. Mercury emissions from facilities using post-combustion control equipment designed to remove mercury from flue gases shall not exceed 70 micrograms per dry standard cubic meter of flue gas, corrected to 7 percent O₂, or 20 percent by weight of the mercury in the flue gas upstream of the mercury control device (80 percent reduction by weight), whichever occurs first.

2. Facilities with sulfur dioxide and hydrogen chloride control equipment in place or under construction as of July 1, 1993, and which choose to control mercury emissions through the use of mercury control equipment, shall comply with the mercury emissions limiting standard of Rule 62-296.416(3)(a)1., F.A.C., by July 1, 1995. All

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other facilities choosing to control mercury emissions through the use of mercury control equipment shall comply with the mercury emissions limiting standard of Rule 62-296.416(3)(a)1., F.A.C., by the date that the facility is required to demonstrate compliance with sulfur dioxide and hydrogen chloride emission limits, which limits are established at Rule 62-204.800(8)(b), F.A.C.

3. Facilities subject to the mercury emissions limiting standard of Rule 62-296.416(3)(a)1., F.A.C., shall demonstrate individual emissions unit compliance by the compliance date specified in Rule 62-296.416(3)(a)2., F.A.C., and annually thereafter.

(b) Emissions Standards for Facilities Using Waste Separation. The Department recognizes that reduction of mercury emissions from waste-to-energy facilities may be achieved by implementation of mercury waste separation programs. Such programs would require removal of objects containing mercury from the waste stream before the waste is used as a fuel.

1. Facilities with sulfur dioxide and hydrogen chloride control equipment in place or under construction as of July 1, 1993, and which choose to control mercury emissions exclusively through the use of a waste separation program, shall submit a program plan to the Department by March 1, 1994, and shall comply with the following emissions limiting schedule.

a. After July 1, 1995, mercury emissions shall not exceed 140 micrograms per dry standard cubic meter of flue gas, corrected to 7 percent O₂.

b. After July 1, 1997, mercury emissions shall not exceed 70 micrograms per dry standard cubic meter of flue gas, corrected to 7 percent O₂.

2. Beginning no later than July 1, 1994, facilities subject to Rule 62-296.416(3)(b)1., F.A.C., shall perform semiannual individual emissions unit mercury emissions tests. Facilities shall stagger the semiannual testing of individual emissions units such that at least one test is performed quarterly. All tests conducted after July 1, 1995, shall be used to demonstrate compliance with the mercury emissions limiting standards of Rule 62-296.416(3)(b)1., F.A.C.

3. Facilities which do not have sulfur dioxide and hydrogen chloride control equipment in place or under construction as of July 1, 1993, and which choose to control mercury emissions exclusively through the use of a waste separation program, shall comply with a mercury emission limitation of 70 micrograms per dry standard cubic meter of flue gas, corrected to 7 percent O₂, by the later of July 1, 1997, or the date that the facility is required to demonstrate compliance with sulfur dioxide and hydrogen chloride emission limits, which limits are established after July 1, 1993. If the facility is required to demonstrate compliance with sulfur dioxide and hydrogen chloride emission limits by a date prior to July 1, 1997, it shall comply with a mercury emission limitation of 140 micrograms per dry standard cubic meter of flue gas, corrected to 7 percent O₂, by that date and until July 1, 1997.

4. Facilities subject to Rule 62-296.416(3)(b)3., F.A.C., shall demonstrate individual emissions unit compliance with the mercury emission limiting standard by the date specified therein and semiannually thereafter. Facilities shall stagger the semiannual testing of individual emissions units such that at least one test is performed quarterly.

(c) Mercury Emissions Inventory. For emissions inventory purposes, all waste-to-energy facilities with charging rates of 40 tons or more per day shall perform annual individual emissions unit mercury emissions tests and report the results to the Department. This testing shall begin during calendar year 1993 and end upon initiation of mercury testing pursuant to Rule 62-296.416(3)(a) or (b), F.A.C.

(d) Mercury Emissions Test Method and Procedures. All mercury emissions tests performed pursuant to the requirements of this rule shall comply with the following provisions.

1. The test method for mercury shall be EPA Method 29 adopted in Rule 62-297, F.A.C.

2. Test procedures shall meet all applicable requirements of Rule 62-297, F.A.C.

(4) Flue Gas Temperature Standard. Waste-to-energy facilities choosing to control mercury emissions through the use of post-combustion control equipment designed to remove mercury from flue gases shall comply with the flue gas temperature standard of Rule 62-296.416(4)(a), F.A.C.

(a) Temperature Standard. The flue gas temperature standard set forth in 40 CFR 60.53b(c), incorporated by reference in Rule 62-2-4.800, F.A.C., shall apply.

(b) Temperature Monitoring. The temperature monitoring requirements set forth in 40 CFR 60.58b(i), incorporated by reference in Rule 62-204.800, F.A.C., shall apply.

(5) Carbon Usage Rate. The carbon injection rate operating standard and monitoring requirements set forth in 40 CFR 60.58b(m), incorporated by reference in Rule 62-204.800, F.A.C.; shall apply.

(6) Review of Standards. The Department shall review the mercury emission limits contained in Rule 62-296.416(3), F.A.C., and make recommendations to the Environmental Regulation Commission on revising the mercury emission limits no later than July 1, 1998. The review shall include an examination of available mercury emissions data and advances in mercury control technologies and mercury source separation techniques.

Specific Authority 403.061, FS

Law Implemented 403.021, 403.031, 403.061, 403.087, FS.

History -- New 10-5-93; Formerly 17-296.416; Amended 11-23-94, 1-1-96, 10-20-96.

(b) Test procedures shall meet all applicable requirements of Chapter 62-297, F.A.C.

Specific Authority 403.061, FS.

Law Implemented 403.021, 403.031, 403.061, 403.087, FS.

History -- Formerly 17-2.650(1)(f)17.; Formerly 17-296.516; Amended 11-23-94, 1-1-96.

62-296.570 Reasonably Available Control Technology (RACT) - Requirements for Major VOC- and NOx-Emitting Facilities.

(1) Applicability.

(a) The requirements of this rule shall apply to those major VOC- and NOx-emitting facilities specified in Rule 62-296.500(1)(b), F.A.C.; specifically, to those VOC emissions units within such facilities which are not regulated for VOC under Rules 62-296.501 through 62-296.516, F.A.C., and those VOC and NOx emissions units which have not been exempted pursuant to Rule 62-296.500(1)(b), F.A.C., or by a specific provision of Rules 62-296.500 through 62-296.516, F.A.C.

(b) The requirements of this rule shall not apply to emissions units that are exempt from the air permitting requirements of the Department pursuant to Rule 62-210.300, F.A.C.

(2) Compliance Requirements. Emissions units subject to the requirements of this rule shall comply with the operation permit requirements of Rule 62-296.570(3), F.A.C., and the RACT emission limiting standards of Rule 62-296.570(4), F.A.C. If, pursuant to an air operation or construction permit, the owner or operator of a emissions unit subject to the requirements of this rule assumes (or has assumed) a more stringent NOx or VOC emissions limit than the RACT emissions limit established in Rule 62-296.570(4), F.A.C., for the applicable emissions unit category, compliance with the emissions unit's NOx or VOC emissions limit in its air operation or construction permit shall be considered compliance with RACT for purposes of this rule.

(3) Operation Permit Requirements.

(a) The owner or operator of any emissions unit subject to the requirements of this rule shall apply for a new or revised permit to operate in accordance with the provisions of this rule by March 1, 1993, unless a later filing date is specified by the Department in writing.

(b) If the existing operation permit for any emissions unit subject to the requirements of this rule would expire between the effective date of this rule and March 1, 1993, or any later filing date specified by the Department, the expiration date of such permit is hereby extended until March 1, 1993, or such later date. This provision shall not apply in the case of a revocation or suspension of such permit pursuant to Chapter 62-4, F.A.C.

(4) RACT Emission Limiting Standards.

(a) Compliance Dates and Monitoring.

1. Each applicant for a new or revised operation permit for an emissions unit subject to the requirements of this rule shall propose a schedule for implementing

the RACT emission limiting standards as expeditiously as practicable but no later than May 31, 1995. The emissions unit shall demonstrate compliance with the RACT emission limiting standards in accordance with a schedule specified in the emissions unit's air operation permit issued pursuant to Rule 62-296.570(3), F.A.C.

2. Fuel-specific NOx and VOC emission limits established under this rule shall be incorporated into the new or revised operation permit for each emissions unit and become effective in accordance with the terms of the permit.

3. For units that are not equipped with a continuous emission monitoring system (CEMS) for NOx or VOCs, compliance with the emission limits established in this rule shall be demonstrated by annual emission testing in accordance with applicable EPA Reference Methods from Rule 62-297.401, F.A.C., or other methods approved by the Department in accordance with the requirements of Rule 62-297.620, F.A.C., except as otherwise provided in Rule 62-296.570(4)(b), F.A.C. If required, such annual emission testing shall be conducted during each federal fiscal year (October 1 - September 30). Annual compliance testing while firing oil is unnecessary for units operating on oil for less than 400 hours in the current federal fiscal year.

4. For units that are equipped with a CEMS, compliance shall be demonstrated based on a 30-day rolling average. The CEMs must meet the performance specifications contained in 40 Code of Federal Regulations Part 60, Appendix B, or 40 Code of Federal Regulations Part 75, hereby adopted and incorporated by reference.

(b) Emission Limiting Standards.

1. Emissions of NOx from any rear wall fired, forced circulation, 16-burner, compact furnace shall not exceed 0.20 lb/million BTU while firing natural gas and 0.36 lb/million BTU while firing oil.

2. Emissions of NOx from any front wall fired, natural circulation, 18-burner, compact furnace shall not exceed 0.40 lb/million BTU while firing natural gas and 0.53 lb/million BTU of NOx while firing oil.

3. Emissions of NOx from any front wall fired, natural circulation, 24-burner, compact furnace shall not exceed 0.50 lb/million BTU while firing natural gas and 0.62 lb/million BTU of NOx while firing oil.

4. Emissions of NOx from any tangentially fired, low heat release, large furnace shall not exceed 0.20 lb/million BTU while firing natural gas.

5. Emissions of NOx from any gas turbine shall not exceed 0.50 lb/million BTU while firing natural gas and 0.90 lb/million BTU while firing oil. Unless compliance is demonstrated using a CEMS, compliance shall be demonstrated by a stack test on one representative turbine unit within a facility if the turbines are substantially similar.

6. Emissions of VOC and NOx from carbonaceous fuel burning facilities, other than waste-to-energy facilities, shall not exceed 5.0 lbs/million BTU and 0.9 lb/million BTU, respectively.

7. Emissions of NOx from any oil-fired diesel generator shall not exceed 4.75 lb/million BTU.

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8. Emissions of NO_x from any cement plant shall not exceed 2.0 lb/million BTU.

9. Emissions of NO_x from any other combustion emissions unit subject to the requirements of this rule and not covered in Rule 62-296.570(4)(b)1. through 8., F.A.C., shall not exceed 0.50 lb/million BTU. Compliance shall be demonstrated annually in accordance with the applicable EPA Method from Rule 62-297.401, F.A.C., or other method approved by the Department in accordance with the requirements of Rule 62-297.620, F.A.C.

10. Emissions of VOC from resin coating operations shall be limited by the use of low-VOC resin or thermal oxidation of emissions from the purge cycle.

11. Emissions of VOC from any emissions unit subject to this rule but specifically exempted from any of the control technology requirements of Rules 62-296.501, through 62-296.516, F.A.C., shall not exceed the applicable exemption criteria.

(c) Exception for Startup, Shutdown, or Malfunction. The emission limits in this rule shall apply at all times except during periods of startup, shutdown, or malfunction as provided by Rule 62-210.700, F.A.C.

Specific Authority 403.061, FS.

Law Implemented 403.021, 403.031, 403.061, 403.087, FS.

History -- New 2-2-93; Amended 4-62-94; Formerly 17-296.570; Amended 11-23-94, 1-1-96.

62-296.600 Reasonably Available Control Technology (RACT) - Lead.

(1) Applicability. Any new or existing lead processing operation that is located in an area designated under Chapter 62-275, F.A.C., as a lead nonattainment or air quality maintenance area, or in the area of influence of such an area, shall limit the emission of lead through the application of reasonably available control technology (RACT) as specified in Rules 62-296.601 through 62-296.605, F.A.C.

(2) Compliance Requirements. Lead processing operations subject to the requirements of this rule shall comply with the permit requirements, operation and maintenance plan requirements, recordkeeping and reporting requirements, and compliance demonstration requirements of Rules 62-296.600(3) through 62-296.600(6), F.A.C., respectively, the general requirements of Rule 62-296.601, F.A.C., and the specific emission limiting standards of Rules 62-296.602 through 62-296.605, F.A.C. For existing facilities, compliance with these requirements shall be achieved as expeditiously as possible, in accordance with a schedule of compliance established in the permit required pursuant to this rule.

(3) Permit Requirements. By September 30, 1994, the owner or operator of any existing facility subject to the requirements of this rule shall apply for a new or revised federally enforceable, as defined in Rule 62-210.200, F.A.C., air permit, pursuant to Chapter 62-4, F.A.C., addressing the requirements of this rule.

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(4) **Operation and Maintenance Plan.** In any application for a permit, the owner or operator of any facility subject to the requirements of this rule shall submit to the Department an operation and maintenance plan for the lead emissions control devices, collection systems, and processing systems. The operation and maintenance plan shall include quarterly inspection methods for the lead emissions control devices, including black light leak detection tests or broken bag detectors in the baghouses, to prevent reduced lead collection efficiency. Lead oxide handling operations with the potential to emit 200 pounds or less of lead per year shall be exempt from this operation and maintenance plan provision.

(5) **Recordkeeping and Reporting.** The owner or operator of any facility subject to the requirements of this rule shall keep the following records for a minimum of two years, and make them available to any representative of the Department or an approved local air program upon request:

- (a) Records of control equipment operating parameters.
- (b) Maintenance records on the control equipment, including black-light tests, bag replacements, structural repairs, and motor replacements.
- (c) Records of control system malfunctions or failures and corrective actions taken.

(6) **Compliance Demonstration.** The owner or operator of any facility subject to an emissions limiting standard pursuant to Rule 62-296.602 through 62-296.605, F.A.C., shall demonstrate compliance with such limit by the initial compliance date established in the permit required pursuant to this rule or in accordance with the terms of any construction permit addressing the requirements of this rule, and every five years thereafter unless a more frequent schedule is specified in the permit.

Compliance shall be demonstrated as follows:

- (a) Compliance with lead emission standards shall be demonstrated by EPA Method 12, adopted and incorporated by reference in Chapter 62-297, F.A.C.
 - (b) Compliance with opacity standards shall be demonstrated by EPA Method 9, adopted and incorporated by reference in Chapter 62-297, F.A.C..
- Specific Authority 403.061, FS.

Law Implemented 403.021, 403.031, 403.061, 403.087, FS.

History -- New: 8-8-94, Formerly 17-296.600; Amended 1-1-96, Amended 3-13-96.

62-296.601 Lead Processing Operations in General.

(1) **Applicability.** The provisions of this rule shall apply to all lead processing operations as specified in Rule 62-296.600(1), F.A.C.

(2) **Prohibition.**

(a) No owner or operator of a lead processing operation shall cause, allow, or permit the emissions of lead, including emissions of lead from vehicular movement, transportation of materials, construction, alteration, demolition or wrecking, or industrially-related activities such as loading, unloading, charging, melting, tapping,

casting, storing or handling, unless reasonably available control technology is employed to control such lead emissions.

(b) Examples of measures that constitute RACT are:

1. Paving, curbing, and maintaining roads, parking areas and yards which are routinely used by vehicular traffic.
2. Applying water or chemicals to control emissions from such activities as demolition of buildings, grading roads, construction, and land clearing.
3. Installing a permanent sprinkler system to continuously moisten open stock piles.
4. Vacuuming the roads and other paved areas under the control of the owner or operator of the facility to prevent lead from becoming airborne.
5. Landscaping or vegetating unpaved roads, parking areas and yards.
6. Using hoods, fans, filters, and similar equipment to capture, contain, and control lead emissions.
7. Enclosing or covering conveyor systems.
8. Using walls or windbreaks to contain lead-bearing scrap, products, or raw materials.

(c) As part of any application for a permit, the owner or operator of any facility subject to the requirements of this rule shall submit to the Department a description of the reasonably available control technology that will be employed to meet the requirements of this rule.

Specific Authority 403.061, FS.

Law Implemented 403.021, 403.031, 403.061, 403.087, FS.

History -- New 8-8-94, Formerly 17-296.601; Amended 1-1-96.

62-296.602 Primary Lead-Acid Battery Manufacturing Operations.

(1) Emission Limiting Standards. No owner or operator of a primary lead-acid battery manufacturing operation subject to Rule 62-296.600, F.A.C., shall cause, allow, or permit the discharge into the atmosphere of lead in excess of the following emission standards, in grains of lead per dry standard cubic foot, nor shall visible emissions exceed the following standards, in percent opacity:

- (a) Grid casting sources: 0.000176 grains and 0% opacity.
- (b) Paste mixing sources: 0.00044 grains and 0% opacity.
- (c) Three-process operation sources: 0.00044 grains and 0% opacity.
- (d) Lead oxide manufacturing sources: 0.0005 grains and 0% opacity.
- (e) Lead reclamation sources: 0.00198 grains and 5% opacity.
- (f) Any other lead sources: 0.00044 grains and 0% opacity.

(2) Collection Systems. Collection systems representing RACT shall be installed and operated to capture, contain, and control lead emissions resulting from all lead-emitting processes including charging, melting, tapping, and casting. No lead emissions shall be vented to the outside of any enclosed or partially enclosed process unless RACT is employed to control such emission.

Effective 11-13-97

(3) **Attainment Demonstration.** As part of the initial application for the permit required pursuant to Rule 62-296.600(3), F.A.C., the owner or operator of a facility subject to the requirements of this rule shall demonstrate to the Department that, after the application of RACT, the facility shall not cause or contribute to a violation of the ambient air quality standard for lead as set forth in Rule 62-204.240, F.A.C. The demonstration shall be made using air quality models as provided in Rule 62-204.220(2), F.A.C., and shall address both stack and fugitive emissions.

Specific Authority 403.061, FS.

Law Implemented 403.021, 403.031, 403.061, 403.087, FS.

History -- New 8-8-94, Formerly 17-296.602; Amended 1-1-96, 3-13-96.

62-296.603 Secondary Lead Smelting Operations.

(1) **Emission Limiting Standards.** No owner or operator of a secondary lead smelting operation subject to Rule 62-296.600, F.A.C., shall cause, allow, or permit the discharge into the atmosphere of lead in excess of the following emission standards, in grains of lead per dry standard cubic foot, nor shall visible emissions exceed the following standards, in percent opacity:

(a) Blast and slag furnaces: 0.010 grains and 3% opacity at the exit point of the emissions control device.

(b) Blast furnace charging: 0.002 grains and 3% opacity at the exit point of the emissions control device.

1. Visible emissions from the closed charge doors on the blast furnace shall not exceed 3% opacity during furnace operation.

2. Visible emissions from the charge doors on the blast furnace shall not exceed 6% opacity during charging operation.

(c) Blast and slag furnaces, slag and product tapping: 0.002 grains and 3% opacity at the exit point of the emissions control device.

(d) Melt kettles and pot furnaces: 0.0002 grains and 3% opacity.

(e) Battery cracking operations: 3% opacity.

(f) Slag handling and processing operations: 0.0000333 grains and 3% opacity.

(2) **Collection Systems.** Collection systems representing RACT shall be installed and operated to capture, contain, and control lead emissions resulting from the storage, transport, and processing of all lead-bearing materials and products at secondary lead smelting operations. No lead emissions shall be vented to the outside of any enclosed or partially enclosed process unless RACT is employed to control such emissions.

(3) **Attainment Demonstration.** As part of the initial application for the permit required pursuant to Rule 62-296.600(3), F.A.C., the owner or operator of a facility subject to the requirements of this rule shall demonstrate to the Department that, after the application of RACT, the facility shall not cause or contribute to a violation of the ambient air quality standard for lead as set forth in Rule 62-272.300, F.A.C. The

and upstream of the second. The mercury content of the sample shall be determined for comparison with the OSHA permissible exposure limit.

4. The owner or operator shall operate, monitor and maintain the air pollution control equipment in such a manner as not to exceed the OSHA permissible exposure limit for mercury vapor downstream of the first carbon filter (or equivalent technology) and upstream of the second.

(2) Recordkeeping Requirements. The owner or operator of a facility subject to this rule shall maintain records of monitoring information that specify the date, place, and time of measurement; the methodology used; and the analytical results. These shall include all calibration and maintenance records of monitoring equipment. The owner or operator shall retain records of all monitoring data and supporting information, available for Department inspection, for a period of at least five years from the date of collection.

Specific Authority 403.061, 403.087, FS.

Law Implemented 403.021, 403.031, 403.061, 403.087, FS.

History -- New 10-16-95, Amended 3-13-96.

**62-296.500 Reasonably Available Control Technology
(RACT) - Volatile Organic Compounds (VOC) and Nitrogen Oxides (NOx) Emitting
Facilities.**

(1) Applicability.

(a) The specific emission limiting standards and other requirements of Rules 62-296.500 through 62-296.516, F.A.C., shall apply to existing VOC-emitting facilities in all designated ozone nonattainment and air quality maintenance areas. In addition, the emission limiting standards of these rules shall apply to new and modified VOC-emitting facilities in all designated ozone nonattainment and air quality maintenance areas except those new and modified VOC-emitting facilities which have been or would be subject to review pursuant to 40 CFR 52.21 or Rule 17-2.17 (repealed), 17-2.500 (transferred), 17-2.510 (transferred), 62-212.400 or 62-212.500, F.A.C.

(b) In addition to the applicable requirements of this rule the specific emission limiting standards and other requirements of Rule 62-296.570, F.A.C., shall apply in Broward, Dade, and Palm Beach counties to major VOC-emitting facilities not regulated in whole under Rules 62-296.501 through 62-296.516, F.A.C., and major NOx-emitting facilities, except those new and modified major VOC- and NOx-emitting facilities which have been or would be subject to review pursuant to 40 CFR 52.21 or Rule 17-2.17 (repealed,) 17-2.500 (transferred), 17-2.510 (transferred), 62-212.400, or 62-212.500, F.A.C.

(2) Permit, Recordkeeping, and Compliance Reporting Requirements.

(a) Permits - Special Considerations.

1. Permits to construct or operate are required for all emissions units subject to a specific emission limiting standard or other requirement of Rules 62-296.501

Effective 11-13-97

EMISSION MEASUREMENT CENTER GUIDELINE DOCUMENT

TEMPERATURE MEASUREMENTS AND CALIBRATION OF TYPE K THERMOCOUPLES IN HIGH TEMPERATURE STACKS

INTRODUCTION

A common type of thermocouple material is the K-type. There are some limitations for the application of any thermocouple type but the discussion here will be limited to the application of the K-type. The manufacturer's specifications are a starting point for assurance of accuracy for temperature measurement with the thermocouple. The manufacturer usually specifies the accuracy, and temperature range for the give application.

DISCUSSION

Once the thermocouple has been placed in a stack (with the assumption that it is placed in a protective sheath and loosely insulated for protection from the harsh stack gases) the manufacturer's calibration data has been altered. Manufacturer's specifications are from data obtained under ideal laboratory conditions. It would be impractical to remove the thermocouple from the stack routinely to calibrate it against a reference thermocouple in the laboratory for QA purposes because of the obvious environmental differences. One important difference is the temperature profile of the thermocouple in the stack than in the lab. One possible alternative way of calibrating the thermocouple would be to compare results of a reference thermometer or other temperature measurement device placed in the stack near the thermocouple. Another alternative would be to slide either an R or S type thermocouple that have been calibrated in a thermology lab into the protective sheath, along side the one in question, for making reference comparisons for accuracy.

Drift under ideal conditions for a typical type K thermocouple is around .25 to .5 percent for every 1000 operating hours. Therefore, to ensure that the usual manufacturers "out of the box" initial accuracy (0.75 percent) plus about 1.25 percent drift (Total CD = 2.0 percent) is not exceeded, the thermocouple calibration should be verified every 3 months or replaced.

Annual

Type K thermocouples, even with large wire gauge sizes, will eventually fail if subjected to sustained temperatures above 2000 degrees Fahrenheit. Even short excursions will shorten the useful life of the thermocouple. Other types of thermocouples should be considered for sustained temperatures above 2000 degrees Fahrenheit.

The National Institute of Standards and Technology (NIST) was the reference for this information and the expert contact at NIST is Mr. George Burns, Electrical Engineer for the Thermocouple Group. His number is (301)975-4817.

TO: District Air Program Administrators
Local Air Program Administrators
Bureau of Air Regulation Engineers

FROM: Howard L. Rhodes, Director
Division of Air Resources Management

DATE: October 10, 1994

SUBJECT: Guidance on Calibration of the Temperature
Monitoring System for Soil Thermal Treatment Facilities

Rule 62-296.415(1)(c), F.A.C., requires the temperature of the flue gases leaving the high temperature zone of a soil thermal treatment facility to be monitored continuously. Rule 62-297.500(6), F.A.C., requires the temperature monitoring system to be calibrated at least annually from 10 percent below to 10 percent above its normal operation range by the procedures recommended by the manufacturer. The temperature monitoring system generally consists of a thermocouple, a temperature indicator, and a recorder. The purpose of the calibration is to provide reasonable assurance that the temperature being recorded by the monitoring system is the actual temperature of the flue gases.

If the manufacturer has provided recommended calibration procedures, those procedures should be followed. If the manufacturer has not provided recommended calibration procedures, the following general calibration procedures should be used:

THERMOCOUPLE: The calibration points should bracket the hot zone temperature range over which the thermocouple is to be used. The rule requires the voltage output from the thermocouple to be measured at a minimum of three temperatures and over a range from 10% below to 10% above the designed flue gas hot zone temperature. The thermocouple should be calibrated against a NIST (National Institute of Standards and Technology) traceable reference thermocouple. The thermocouple may be calibrated using ASTM E 220, Method B. For these high temperature calibrations, electrical tube furnaces or dry fluidized baths can be used as stable heat sources. The incinerator duct may also be used for thermocouple calibration as discussed in guideline document GD-24, "Temperature Measurements and Calibration of Type K Thermocouples in High Temperature Stacks."

District Air Program Administrators and
Local Air Program Administrators
October 10, 1994
Page Two

This document is available from the EPA Emission Measurement and Technical Information Center (EMTIC). The telephone number for the EPA bulletin board system is (919) 541-5742. Alternatively, the thermocouple can be replaced each year with a new thermocouple certified by the manufacturer to be accurate to within 0.9% of the flue gas temperatures being measured. A certificate of conformance from the manufacturer (certifying that the new thermocouple conforms to published specifications) will satisfy the annual calibration requirements of Rule 62-297.500(6), F.A.C. New
A

TEMPERATURE INDICATOR: The instrument, which converts voltage output from the thermocouple to a temperature reading, can be calibrated by applying known voltages (mv), and reading the reported temperatures. The voltage values should correspond to the voltages generated by the thermocouple for temperatures over a range from 10% below to 10% above the designed flue gas hot zone temperature. The reference voltage supply should be accurate to within 0.1% of the reading.

RECORDER: The strip chart recorder or digital data acquisition system should be connected to the temperature indicator during its calibration and can be calibrated at the same time. The recorder should be adjusted to reproduce the readings of the temperature indicator.

The temperature monitoring system calibration error should not exceed 1% of the temperature reading pursuant to Rule 62-297.500(6), F.A.C.

HLR/mh/hf

Teresa

In order to validate the claim that the thermocouples in question cannot perform within the specified 1% of span in the units of measurement, it would be reasonable that the facility submit:

1. The type, model, and manufacturer of thermocouples used to make the measurements.
2. A copy of the manufacturers accuracy specifications for the thermocouples.
3. The latest calibration error test results for the thermocouples in question demonstrating the accuracy of the thermocouples relative to the expected measurement span.
4. A copy of the procedure by which any calibration data has been obtained would be expected to accompany the calibration data.
5. Maintenance records showing any repair, or replacement of the thermocouples could give the Department an ideal as to the durability of the devices in the environment that they are exposed to and the possible affects that may effect the drift of the instruments.

Matthew

1 2. Test procedures shall meet all applicable
2 requirements of Rule 62-297, F.A.C.

3 (4) Flue Gas Temperature Standard. Waste-to-energy
4 facilities choosing to control mercury emissions through the
5 use of post-combustion control equipment designed to remove
6 mercury from flue gases shall comply with the flue gas
7 temperature standard of Rule 62-296.416(4)(a), F.A.C.

8 (a) Temperature Standard. The flue gas temperature
9 standard set forth in 40 CFR 60.53b(c), incorporated by
10 reference in Rule 62.204.800, F.A.C., shall apply. Except
11 ~~during a malfunction, the maximum flue gas temperature at~~
12 ~~the final particulate matter control device inlet, during~~
13 ~~the combustion of solid waste, shall not exceed 30 degrees~~
14 ~~Fahrenheit above the maximum temperature measured at the~~
15 ~~particulate matter control device inlet during the most~~
16 ~~recent mercury compliance test under which the facility was~~
17 ~~found to be in compliance pursuant to Rule 62-296.416(3)(a),~~
18 ~~F.A.C. If the maximum flue gas temperature standard is~~
19 ~~exceeded during a malfunction, then up to three hours of~~

1 ~~that malfunction may be excluded from the four hour block~~
2 ~~arithmetic average.~~

3 (b) Temperature Monitoring. The temperature monitoring
4 requirements set forth in 40 CFR 60.58b(i), incorporated by
5 reference in Rule 62-204.800, F.A.C., shall apply.

6 ~~Facilities subject to the temperature standard of Rule~~
7 ~~62-296.416(4)(a), F.A.C., shall install, operate, and~~
8 ~~maintain, in accordance with the manufacturer's~~
9 ~~instructions, continuous monitoring equipment to monitor the~~
10 ~~flue gas temperature at the inlet to the final particulate~~
11 ~~matter control device and record the output.~~

12 1. ~~The temperature shall be calculated in four hour~~
13 ~~block arithmetic averages.~~

14 2. ~~The monitoring equipment shall be installed by the~~
15 ~~date required for initial compliance with the mercury~~
16 ~~emission standard of Rule 62-296.416(3)(a), F.A.C.~~

17 3. ~~The monitoring equipment shall meet the requirements~~
18 ~~of 40 CFR 60.13, including certification of each device in~~
19 ~~accordance with 40 CFR 60.7(a)(5). The monitoring equipment~~

1 ~~is to be certified by the manufacturer to be accurate within~~
2 ~~+ 1 percent of the temperature being measured.~~

3 4. ~~Each facility shall maintain a complete file of all~~
4 ~~measurements including continuous monitoring equipment~~
5 ~~performance testing results; all continuous monitoring~~
6 ~~equipment performance evaluations; all continuous monitoring~~
7 ~~equipment calibration checks; and all adjustments and~~
8 ~~maintenance performed on the equipment. This information~~
9 ~~shall be recorded in a permanent legible form suitable for~~
10 ~~inspection. The file shall be retained for at least two~~
11 ~~years following the date of such measurements, checks and~~
12 ~~maintenance activities.~~

13 (5) Carbon Usage Rate. The carbon injection rate
14 operating standard and monitoring requirements set forth in
15 40 CFR 60.58b(m), incorporated by reference in Rule 62-
16 204.800, F.A.C., shall apply. ~~Waste to energy facilities~~
17 ~~choosing to control mercury emissions through the use of~~
18 ~~carbon injection equipment shall comply with the following~~
19 ~~carbon usage rate requirements.~~