



FILE COPY

October 17, 2001

THE CITY OF KEY WEST
P. O. BOX 1409
KEY WEST, FLORIDA 33041-1409
www.keywestcity.com

Mr. Venkata Panchakarla
Florida Department of Environmental Protection
Twin Towers Office Building
2600 Blair Stone Road
Tallahassee, Florida 32399-2400

Re: Final Control Plan
Monroe Co. – AP
Southernmost Waste to Energy Facility
Permit No. 0870047-001 AV

Mr. Venkata Panchakarla:

As per our phone conversation on October 15, 2001 here is the additional information you requested.

Please note that the 1996 stack test information is in a table form averaging 5 runs on the two units. I have indicated on the table where more recent information was available.

As I mentioned in our phone conversation the City will be performing another stack test for current information to use for the retrofit RFP around the end of November, as well as our annual Title V compliance test.

If you have any questions or need any further information, please contact my office.

Sincerely,

A handwritten signature in black ink, appearing to read "R.B. Havens", with a long horizontal flourish extending to the right.

R.B. Havens
Plant Manager
Southernmost Waste-to-Energy Facility
Ph: (305) 293-6409

cc: Ronald Blackburn / FDEP Fort Meyers
Jim Edds / FDEP Marathon

RH

Attachments: (3) Supplement 2, July 1996 Stack Test Results
Table 4 and 5 of Subpart BBBB

COM 2001 BAB

SUPPLEMENT 2

Southernmost Waste-to-Energy Facility (SWEF)

Stack Testing Results - July 1996

Unit:	#1	#1	#1	#2	#2	
Fuel:	Dry	Dry	Wet	Dry	Dry	
Capacity:	100%	50%	100%	100%	75%	
Date:	8/15/96	8/16/96	8/17/96	8/18/96	8/19/96	
Pollutant	Emission Rate (lbs/hr)	Emission Rate (lbs/hr)	Emission Rate (lbs/hr)	Emission Rate (lbs/hr)	Emission Rate (lbs/hr)	Average (lbs/hr)
TSP	0.608	0.443	0.596	0.838	2.537	1.004
PM(10)-Front	1.535	X	1.075	0.982	X	1.197
PM(10)-Back	2.438	X	2.383	2.625	X	2.482
PM(10)-Both	3.973	X	3.458	3.607	X	3.679
Cd	4.14E-04	3.61E-04	7.71E-04	1.89E-03	X	8.59E-04
Pb	3.96E-03	4.47E-03	1.02E-02	1.62E-02	X	8.71E-03
Hg	6.59E-04	7.31E-04	6.35E-04	9.70E-04	X	7.49E-04
HCl	19.77	7.870	17.227	16.930	18.627	16.085
CO	88.706	27.404	63.233	104.362	51.313	67.004
NO _x	6.988	9.898	11.607	10.317	10.043	9.771
SO ₂	7.824	6.406	6.522	6.150	3.428	6.066
O ₂ (%)	10.913	15.775	14.083	13.417	13.377	13.513
CO ₂ (%)	8.863	4.480	6.067	6.713	6.820	6.589
H ₂ O (%)	13.34	9.19	12.34	12.23	12.03	11.83
Opacity (%)	5.16	0.54	5.06	6.81	5.22	4.56
Grains/dscf**	0.0062	0.0023	0.0036	0.0047	0.0141	0.0062
TSP Collection Eff. %	94.91%	98.83%	99.35%	98.51%	97.28%	97.78%
Flow Rate (dscfm)**	9796	9227	10811	12763	12880	11095
Stack Temp (F)	495.8	476.4	489.8	519.6	526.7	501.7
* Each unit is rated at 75 tpd. Total plant capacity is 150 tpd. A unit consists of a MWC and an ESP. Both units vent to a common stack.						
** Corrected to 7% O ₂						

Table 4 of Subpart BBBB – Model Rule -- Class II Emission Limits for Existing Small Municipal Waste Combustion Unit

a)

For the Following Pollutants	You must meet the following emission following determine limits b)	Using the following averaging times	And determine compliance by the following methods	Most Recent Data
1. Organics: Dioxins/Furans (total mass basis)	125 nanograms per dry standard cubic meter.	3-run average (minimum run duration is 4 hours).	Stack Test	CO2 (%) 6.589 lbs/hr (1996 stack test)
2. Metals: Cadmium	0.10 milligrams per dry standard cubic meter	3-run average (run duration specified in test method).	Stack Test	8.59E-04 lbs/hr (1996 stack test) .02066976 mg/dscm
Lead	1.6 milligrams per dry standard cubic meter	3-run average (run duration specified in test method).	Stack Test	8.71E-03 lbs/hr (1996 stack test) .20958516 mg/dscm
Mercury	.080 milligrams per dry standard cubic meter. 85 percent reduction of potential mercury emissions.	3-run average (run duration specified in test method).	Stack Test	45.85 gr/SCM Unit one 19.29 gr/SCM Unit two (2000 stack test) .04585000 mg/dscm (1) .01929000 mg/dscm (2)
Opacity	10 percent	Thirty 6-minute average	Stack Test	0.0% (2000 stack test)
Particulate Matter	70 milligrams per dry standard cubic meter.	3-run average (run duration specified in test method).	Stack Test	2.987 lbs/hr Unit one 2.473 lbs/hr Unit two (2000 stack test) 122.3902331 mg/dscm (1) 118.4731476 mg/dscm
3. Acid Gases: Hydrogen Chloride	250 parts per million by volume -or- 50 percent reduction of potential hydrogen chloride emissions.	3-run average (minimum run duration is 1 hour).	Stack Test	16.085 lbs/hr (1996 stack test) 256.00624 ppmvd
Sulfur Dioxide	77 parts per million by dry volume -or- 50 percent reduction of potential sulfur dioxides	24-hour daily block geometric average concentration -or- percent reduction	Continuous emission monitoring system	6.066 lbs/hr (1996 stack test) 54.94066 ppmvd

	emissions.			
4. Other: Fugitive Ash	Visible emissions for no more than 5 percent of hourly observation period.	Three 1-hour observation periods.	Visible emission test.	Pass (staff performed)

- a. Class I units mean all small municipal combustion units subject to this subpart that are located at municipal waste combustion plants with aggregate plant combustion capacity less than or equal to 250 tons per day of municipal solid waste. See Sec. 60.1940 for definitions.
- b. All emission limits (except for opacity) are measured at 7 percent oxygen.
- c. No monitoring, testing, recordkeeping or reporting is required to demonstrate compliance with the nitrogen oxides limit for Class II units.

Table 5 of Subpart BBBB -- Model Rule -- Carbon Monoxide Emission Limits for Existing Small Municipal Waste Combustion Units

For the Following Municipal waste combustion units	You must meet the following carbon monoxide limits \a\	Using the following averaging times \b\	And determine compliance by the following methods	Most Recent Data
5. Mass burn rotary waterwall and refractory.	100 parts per million by dry volume	4-hour.		67.004 lbs/hr (1996 stack test) 1388.14161 ppmvd

\a\ All emission limits (except for opacity) are measured at 7 percent oxygen. Compliance is determined by continuous emission monitoring systems.

\b\ Block averages, arithmetic mean. See Sec. Y0.1940 for definitions.

\c\ 24-hour block average, geometric mean.

FedEx USA Airbill
Express

FedEx
Tracking
Number

8256 9486 7453

Form 10, No. 1-97
0215
2-8
B0R12
Sender's Copy

1 From *Please print and press hard.*
Date 10/17/01
Sender's FedEx Account Number 1844-8919-8

Sender's Name Katie Majocha
Phone (305) 293-6409

Company CITY OF KEY WEST S W T E

Address 5701 COLLEGE RD
Dept./Floor/Suite/Room

City KEY WEST State FL ZIP 33040

2 Your Internal Billing Reference OPTIONAL

3 To Recipient's Name Venkata Panchakarla
Phone ()

Company Florida Department of Environmental Protection

Address Twin Towers Office Building
To "HOLD" at FedEx location, print FedEx address. We cannot deliver to P.O. boxes or P.D. ZIP codes.

2600 Blair Stone Road
Dept./Floor/Suite/Room

City Tallahassee State FL ZIP 32399-2400

Peel and Stick FedEx USA Airbill

See back for application instructions.

Questions? Visit our Web site at www.fedex.com
or call 1-800-Go-FedEx® (800)463-3339.

By using this Airbill you agree to the service conditions on the back of this Airbill and in our current Service Guide, including terms that limit our liability.

0167092784

4a Express Package Service
 FedEx Priority Overnight Next business morning
 FedEx Standard Overnight Next business afternoon
 FedEx First Overnight Earliest next business morning delivery to select locations
 FedEx 2Day* Second business day
 FedEx Express Saver* Third business day
* FedEx Envelope/Letter Rate not available. Minimum charge: One-pound rate.

4b Express Freight Service
 FedEx 1Day Freight* Next business day
 FedEx 2Day Freight Second business day
 FedEx 3Day Freight Third business day
* Call for Confirmation. * Declared value limit \$500.

5 Packaging
 FedEx Envelope/Letter*
 FedEx Pak*
 Other Pkg. Includes FedEx Box, FedEx Tube, and customer pkg.

6 Special Handling
 SATURDAY Delivery Available only for FedEx Priority Overnight and FedEx 2Day to select ZIP codes.
 SUNDAY Delivery Available only for FedEx Priority Overnight to select ZIP codes.
 HOLD Weekday at FedEx Location. Include FedEx address in Section 3.
 HOLD Saturday at FedEx Location. RESTRICTIONS: Available only for FedEx Priority Overnight and FedEx 2Day to select locations.

Does this shipment contain dangerous goods?
One box must be checked.
 No
 Yes As per attached Shipper's Declaration
 Yes Shipper's Declaration not required
 Dry Ice Dry Ice, 3 UN 1845 x _____ kg
Dangerous Goods cannot be shipped in FedEx packaging. Cargo Aircraft Only

7 Payment Bill to: Enter FedEx Acct. No. or Credit Card No. below.
 Sender Acct. No. in Section 1 will be billed.
 Recipient
 Third Party
 Credit Card
 Cash/Check

FedEx Acct. No. or Credit Card No.	Exp. Date
Total Packages	Total Weight
	Total Declared Value*
	\$.00

*Our liability is limited to \$100 unless you declare a higher value. See back for details. FedEx Use Only

8 Release Signature Sign to authorize delivery without obtaining signature.
By signing you authorize us to deliver this shipment without obtaining a signature and agree to indemnify and hold us harmless from any resulting claims.
402



September 26, 2001

THE CITY OF KEY WEST

P. O. BOX 1409
KEY WEST, FLORIDA 33041-1409
www.keywestcity.com

FILE COPY

Lawrence A. George
Florida Department of Environmental Protection
Twin Towers Office Building
2600 Blair Stone Road
Tallahassee, Florida 32399-2400

Re: Final Control Plan
Monroe Co. – AP
Southernmost Waste to Energy Facility
Permit No. 0870047-001 AV

Mr. Lawrence George:

As per your letter dated June 21, 2001 this letter will serve as the City of Key West (City) Final Control Plan for the Southernmost Waste to Energy Facility located at 5701 College Road, Stock Island; Latitude 24*34'42"N / Longitude 81*44'49"W.

The City plans to comply with the Emission Guidelines for Small Municipal Waste Combustion Units (40 CFR 60 BBBB) on or before March 1, 2004.

This Final Control Plan will require a permit modification and a retrofit construction project of the existing pollution control equipment.

The City has already done extensive research into pollution control technologies and has been budgeting monies for retrofit design since 1997 in anticipation of adoption of new rules.

The City has chosen to eliminate the current pollution control technology (Electro Static Precipitators) and replace them with a dry hydrated lime and carbon flue gas scrubber system.

This system will include:

Evaporative Cooler Tower. This will be used to lower the flue gas temperature to make the hydrated lime more effective.

Hydrated Lime and Carbon Injection System. This will introduce the lime and carbon into the flue stream.

Pulse Jet Fabric Filter (Bag House). This will function as a particle collector and acid gas removal system.

Induced Draft Fan. It will be necessary to increase the size of the ID fans to allow for increased pressure drop caused by the bag house.

D1
Retrofit

2001

Water Pumps. The pumps are to be variable speed, positive displacement type, to deliver water to the Evaporative Cooler Tower.

The system will have two of each of the above-mentioned devices (two trains) sharing one common stack (existing).

In addition to the above, the following sub-systems are required for each pollution control system.

- Structural Supports and Platforms
- Instrumentation and Controls
- Expansion Joints and Ductwork
- Compressor
- End Product Handling System (existing)
- One (1) common lime storage and delivery system
- One (1) common activated carbon storage and delivery system

The City has already approved the FY 02/03 budget to include the cost of this retrofit project. These budget amounts were obtained from several vendors of pollution control technology tasked by the City to provide a Budgetary Proposal with not to exceed estimates.

The following is an estimated time line for milestones for this project.

1. Have compliance stack test 2001 (for Title V permit) as well as data testing for all emissions that are to be regulated under the new rule on or before October 31, 2001.
2. Have design build RFP for pollution control retrofit issued and advertised on or before March 31, 2002.
3. Award design-build RFP on or before September 30, 2002.
4. Apply for all necessary construction permits and permit modifications on or before December 30, 2002.
5. Start site construction on or before May 31, 2003.
6. Startup system and test on or before December 1, 2003.
7. Be in operational compliance on or before March 1, 2004.

If you have any questions or need any further information, please contact my office.

Sincerely,



R.B. Havens
Plant Manager
Southernmost Waste-to-Energy Facility
Ph: (305) 293-6409

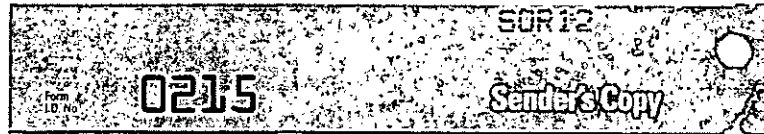
cc: Venkata Panchakarla / FDEP Tallahassee
Ronald Blackburn / FDEP Fort Meyers
Jim Edds / FDEP Marathon

RH

FedEx USA Airbill
Express

FedEx
Tracking
Number

#58
8256 9486 6950



From Please print and press hard.
Date 09/26/01 Sender's FedEx Account Number 1844-8919-8

Sender's Name Marjorie Majocha Phone (305) 293-6409

Company CITY OF KEY WEST S W T E

Address 5701 COLLEGE RD
Dept./Floor/Suite/Room

City KEY WEST State FL ZIP 33040

Your Internal Billing Reference OPTIONAL
First 24 characters will appear on invoice.

To
Recipient's Name Mr. Lawrence A. George Phone ()

Company Florida Department of Environmental Protection

Address Twin Towers Office Building
To "HOLD" at FedEx location, print FedEx address. We cannot deliver to P.O. boxes or P.O. ZIP codes.

2600 Blair Stone Road
Dept./Floor/Suite/Room

City Tallahassee State FL ZIP 32399-2400

Peel and Stick FedEx USA Airbill

See back for application instructions.

Questions? Visit our Web site at www.fedex.com

or call 1-800-Go-FedEx® (800)463-3339.

By using this Airbill you agree to the service conditions on the back of this Airbill and in our current Service Guide, including terms that limit our liability.

0167092784

4a Express Package Service Packages up to 150 lbs.
Delivery commitment may be later in some areas

- FedEx Priority Overnight
Next business morning
 - FedEx Standard Overnight
Next business afternoon
 - FedEx First Overnight
Earliest next business morning delivery to select locations
 - FedEx 2Day*
Second business day
 - FedEx Express Saver*
Third business day
- * FedEx Envelope/Letter Rate not available. Minimum charge. One-pound rate.

4b Express Freight Service Packages over 150 lbs.
Delivery commitment may be later in some areas

- FedEx 1Day Freight*
Next business day
 - FedEx 2Day Freight
Second business day
 - FedEx 3Day Freight
Third business day
- * Call for Confirmation.

5 Packaging * Declared value limit \$500

- FedEx Envelope/Letter*
- FedEx Pak*
- Other Pkg.
Includes FedEx Box, FedEx Tube, and customer pkg.

6 Special Handling

- SATURDAY Delivery RESTRICTIONS
Available only for FedEx Priority Overnight and FedEx 2Day to select ZIP codes
 - SUNDAY Delivery RESTRICTIONS
Available only for FedEx Priority Overnight to select ZIP codes
 - HOLD Weekday at FedEx Location RESTRICTIONS
Not available with FedEx First Overnight
 - HOLD Saturday at FedEx Location RESTRICTIONS
Available only for FedEx Priority Overnight and FedEx 2Day to select locations
- Does this shipment contain dangerous goods?
One box must be checked.
- No
 - Yes
As per attached Shipper's Declaration
 - Yes
Shipper's Declaration not required
 - Dry Ice
Dry Ice, 9, UN 1845
 - Cargo Aircraft Only
- Dangerous Goods cannot be shipped in FedEx packaging.

7 Payment Bill to: Enter FedEx Acct. No. or Credit Card No. below

- Sender
Acct. No. in Section 1 will be billed.
- Recipient
- Third Party
- Credit Card
- Cash/Check

FedEx Acct. No. Credit Card No. Exp. Date

Total Packages	Total Weight	Total Declared Value†
		\$ 00

†Our liability is limited to \$100 unless you declare a higher value. See back for details. FedEx Use Only

8 Release Signature Sign to authorize delivery without obtaining signature.

By signing you authorize us to deliver this shipment without obtaining a signature and agree to indemnify and hold us harmless from any resulting claims.

402

PULL AND RETAIN THIS COPY BEFORE AFFIXING TO THE PACKAGE.

FedEx. USA Airbill
Express

FedEx Tracking Number **8350 5874 4033**

1 From Please print and print back.

Date 10/31/02 Sender's FedEx Account Number 1844-8919-8

Sender's Name R. B. Havens Phone (305) 293-6409

Company CITY OF KEY WEST S W T E

Address 5701 COLLEGE RD

City KEY WEST State FL ZIP 33040

2 Your Internal Billing Reference
Put 20 characters will appear on invoice. OPTIONAL

3 To

Recipient's Name Shereill Culliver Phone 239,332,6975

Company FDEP

Address 2295 Victoria Ave

City FT. Myers State FL ZIP 33901

Try online shipping at fedex.com

By using this Airbill you agree to the service conditions on the back of this Airbill and in our current Service Guide, including those that limit our liability.

Questions? Visit our Web site at fedex.com or call 1.800.Go.FedEx.® 800.468.3333

0220530994

Sender's Copy

4a Express Package Service

FedEx Priority Overnight Next business morning FedEx Standard Overnight Next business afternoon FedEx First Overnight Earliest next business morning. Delivery to select locations.

FedEx 2Day Second business day. FedEx Tracking not available. Minimum charge. One parcel only. FedEx Express Saver Third business day.

4b Express Freight Service

FedEx 1 Day Freight* Next business day FedEx 2Day Freight Second business day FedEx 3Day Freight Third business day

* Call for Confirmation

5 Packaging

FedEx Envelope* FedEx Pak* Other

* Declared value limit \$500

6 Special Handling

SATURDAY Delivery Available ONLY for FedEx Priority Overnight and FedEx 2Day in select ZIP codes. HOLD Wednesday at FedEx Location NOT Available for FedEx First Overnight. HOLD Saturday at FedEx Location Available ONLY for FedEx Priority Overnight and FedEx 2Day to select locations.

Does this shipment contain dangerous goods? See back for definition.

No Yes Are you attached to your Declaration? Yes Emergency Declaration Dry Ice Dry Ice, 9 UN 1845 Cargo Aircraft Only

Dangerous Goods Packaging: Dry Ice containers approved for FedEx packaging.

7 Payment SHW: Enter FedEx Acct. No. or Credit Card No. below.

Sender Recipient Third Party Credit Card Cash/Check

Total Packages: _____ Total Weight: _____ Total Declared Value: \$ _____

8 Release Signature Sign to authorize delivery without obtaining signature.

By signing you authorize us to deliver this shipment without obtaining a signature and agree to indemnify and hold us harmless from any resulting claims.

447

PULL AND RETAIN THIS COPY BEFORE AFFIXING TO THE PACKAGE.