

**Covanta Lee, Inc.**  
A Covanta Energy Company  
10500 Buckingham Road  
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August 11, 2006

Mr. Joe Kahn, Acting Director  
Division of Air Resource Management  
Florida Department of Environmental Protection  
Twin Towers Office Building  
2600 Blair Stone Road  
Tallahassee, FL 32399-2400

RE: Final Title V Permit No. 0710119-003-AV  
2006 Compliance Test Report

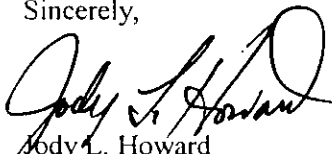
Dear Mr. Kahn,

Attached please find the executive summary report, confidential process data, one copy of the tester's report on compact disc for the compliance test performed at the Lee County Solid Waste Resource Recovery Facility. Stack testing on both MWC Units was conducted on June 27, 2006 and June 28, 2006. This testing was performed in accordance with the source test protocol (COV Report #3104).

Also enclosed please find a compact disc copy of the relative accuracy test audit (RATA) report on the continuous emission monitoring system for the second quarter of 2006. This report also satisfies the data assessment report requirement for the second quarter of 2006 with the exception of Section II- calibration drift assessment that was included, if applicable, in the facility's excess emission report.

If you have any questions regarding the enclosed material, please feel free to contact me. I can be reached during the day at (239) 337-2200 Ext. 4.

Sincerely,

  
Jody L. Howard  
Facility Manager

cc: R. Blackburn, FDEP-SD (w/ 1 CD and 1 Paper.)  
L. Sampson, EC SWMD (w/ 1 CD and 1 Paper.)  
B. Macionski, Covanta (w/ 1 CD)  
File (w/ 1 CD and 1 Paper.)

Stack Test Letter 2006

**Covanta Lee, Inc.**  
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**ENVIRONMENTAL TEST REPORT**

**VOLUME I**

**EXECUTIVE SUMMARY - COV REPORT NO. 3140**

**August 11, 2006**

PREPARED FOR: Covanta Lee, Inc.  
10500 Buckingham Road  
Suite 400  
Ft. Myers, FL 33905

REGULATORY AGENCY: Florida Department of Environmental Protection  
Title V Permit No. 0710119-003-AV.

TEST DATES: June 27 - June 28, 2006

ASSOCIATED REPORT: COV Report No. 3140

PREPARED BY: Covanta Lee, Inc.

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## 1.0 INTRODUCTION

This Executive Summary is intended to present data collected during the test program which demonstrates compliance with permit emission limits. All test procedures conducted during the test program are listed in the Section 3.0, Schedule of Activities (Table 3.2). The testing Contractor Report (Volume 2) includes all data gathered at the site and all laboratory analytical data. A review of both the Executive Summary and Contractor Report should be done for complete understanding of the test program.

Covanta Lee, Inc. performed compliance emission tests at the Lee County Solid Waste Resource Recovery Facility from June 27-28, 2006. The objective of this test program was to demonstrate compliance with the emission limit provisions of the Florida Department of Environmental Protection Title V, Permit No. 0710119-003-AV. The testing was performed by TESTAR, Inc. in accordance with procedures in the test protocol.

The Lee County Solid Waste Resource Recovery Facility is located in Ft. Myers, FL. The facility consists of two identical municipal solid waste-fired boilers of Martin GmbH Stoker Combustion System design. The facility is nominally rated at 1320 tons of municipal solid waste per day (660 TPD/boiler) and generates approximately 40 megawatts of electricity.

A summary of emission test results for Units 1 and 2 is presented in Section 2.0, Tables 2.1-2.4. A complete summary of all data and events that occurred during the test program is presented in the Contractor Report.

The test program, as indicated in the Source Test Plan (COV Report No. 3104) is presented in Section 3.0, Table 3.1. The Schedule of Activities at the site is presented in Table 3.2. Test observers and test participants are presented in Table 3.3. The maximum demonstrated particulate matter device inlet temperature, carbon injection rate and steam rate is presented in the Appendix A.

Arsenic, beryllium, fluoride, sulfuric acid mist, ammonia and VOC parameters were tested during the 2000 base year compliance tests. These parameters were tested again prior to the renewal of the Title V permit during the 2005 base year.

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## 2.0 SUMMARY OF RESULTS

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TABLE 2.1

## SUMMARY OF SOURCE TEST RESULTS - UNIT 1

Unit #1 SDA Inlet Concentrations					
Parameter	Run 1	Run 2	Run 3	Average	Permit Limit
Hydrogen Chloride, ppm @ 7% O <sub>2</sub>	769	727	736	744	NA
Mercury, ug/DSCM @ 7% O <sub>2</sub>	104	242	115	154	NA
Sulfur Dioxide, ppmvd @ 7% O <sub>2</sub>	52.9	93.8	85.6	77.4	NA

Unit #1 Stack Concentrations					
Parameter	Run 1	Run 2	Run 3	Average	Permit Limit
Carbon Monoxide, ppm @ 7% O <sub>2</sub>	8.0	7.4	8.0	7.8	100
Dioxins/Furans, ng/DSCM @ 7% O <sub>2</sub>	12.2	11.8	11.2	11.7	30
Hydrogen Chloride, ppm @ 7% O <sub>2</sub>	27.6	23.0	18.3	23.0	25
Mercury, ug/DSCM @ 7% O <sub>2</sub>	28.8	23.5	27.8 <sup>(2)</sup>	26.7	70
Cadmium, mg/DSCM @ 7% O <sub>2</sub>	0.00159	0.00233	0.00221 <sup>(2)</sup>	0.00205	0.040 <sup>a</sup>
Lead, mg/DSCM @ 7% O <sub>2</sub>	0.0166	0.0237	0.0188 <sup>(2)</sup>	0.0197	0.440 <sup>a</sup>
Nitrogen Oxides, ppm @ 7% O <sub>2</sub>	151.7	154.7	160.2	155.5	180
Particulate, Gr/DSCF @ 7% O <sub>2</sub>	0.00118	0.00131	0.00138 <sup>(2)</sup>	0.00129	0.010
Sulfur Dioxide, ppm @ 7% O <sub>2</sub>	1.6	0.3	0.2	0.7	29

(1) Run number used in this report for valid data. Actual field replicate number may vary owing to conditions existing at site.

(2) Conducted under normal soot blowing conditions.

TABLE 2.1 A

## SUMMARY OF SOURCE TEST RESULTS - UNIT 1

Unit #1 Stack Emission Rates, lb/hr					
Parameter	Run 1	Run 2	Run 3	Average	Permit Limit
Carbon Monoxide	2.4	2.2	2.4	2.3	27.2
Dioxins/Furans	3.07E-06	2.78E-06	2.67E-06	2.84E-06	7.0E-06
Hydrogen Chloride	10.2	8.57	6.69	8.49	17.70
Mercury	0.00702	0.00578	0.00670 <sup>(1)</sup>	0.00650	0.0379
Cadmium	0.000389	0.000573	0.000532 <sup>(1)</sup>	0.000498	NA
Lead	0.00406	0.00583	0.00452 <sup>(1)</sup>	0.00480	0.165
Nitrogen Oxides	73.8	74.2	80.1	76.0	80
Particulate	0.659	0.738	0.760 <sup>(1)</sup>	0.719	5.34
Sulfur Dioxide	1.1	0.2	0.1	0.5	41

<sup>(1)</sup> Conducted under normal soot blowing conditions.

TABLE 2.1 B

SUMMARY OF SOURCE TEST RESULTS - UNIT 1

Unit #1 Stack Emission Rates, Ton/Year					
Parameter	Run 1	Run 2	Run 3	Average	Permit Limit
Carbon Monoxide <sup>(1)</sup>	10.5	9.6	10.5	10.5	108
Dioxins/Furans <sup>(1)</sup>	1.34E-05	1.22E-05	1.17E-05	1.34E-05	2.80E-05
Hydrogen Chloride <sup>(1)</sup>	44.7	37.5	29.3	44.7	70.7
Mercury <sup>(1)</sup>	0.0307	0.0253	0.0293 <sup>(2)</sup>	0.0307	0.166
Cadmium <sup>(1)</sup>	0.0017	0.0025	0.0023 <sup>(2)</sup>	0.0017	NA
Lead <sup>(1)</sup>	0.0178	0.0255	0.0198 <sup>(2)</sup>	0.0178	0.66
Nitrogen Oxides <sup>(3)</sup>	283	285	308	292	320
Particulate <sup>(1)</sup>	2.886	3.232	3.329 <sup>(2)</sup>	2.886	21.3
Sulfur-Dioxide <sup>(1)</sup>	4.8	0.9	0.4	4.8	163.3

<sup>(1)</sup> The ton/yr emission rate is based on 8,760 hr/yr, which is derived from 100% boiler availability during the year. The facility did not operate at 100% boiler availability during the 2005 calendar year. Thus, the actual emissions in tons per year are less than the value above based upon actual boiler availability.

<sup>(2)</sup> Conducted under normal soot blowing conditions.

<sup>(3)</sup> The ton/yr emission rate is based on 7679 hr/yr, the actual 2005 boiler operating hours.



TABLE 2.1 C

SUMMARY OF SOURCE TEST RESULTS - UNIT 1

Unit #1 Stack Emission Rates, lb/MMBtu					
Parameter	Run 1	Run 2	Run 3	Average	Permit Limit
Carbon Monoxide	0.008	0.008	0.008	0.008	0.10
Dioxins/Furans	1.10E-08	1.06E-08	1.00E-08	1.05E-08	2.54E-08
Hydrogen Chloride	0.0376	0.0313	0.0250	0.0313	0.644
Mercury	0.0000259	0.0000211	0.0000250 (2)	0.0000240	0.000138
Cadmium	1.43E-06	2.10E-06	1.98E-06 (2)	1.84E-06	NA
Lead	0.0000149	0.0000213	0.0000169 (2)	0.0000177	0.00060
Nitrogen Oxides	0.261	0.266	0.275	0.267	0.290
Sulfur Dioxide	0.0038	0.0007	0.0004	0.0016	0.150

(1) Calculated based on an  $F_d$  factor of 9570 dscf/10<sup>6</sup> Btu (40 CFR 60 Appendix A, Method 19, Section 3.1).

(2) Conducted under normal soot blowing conditions.

TABLE 2.1 D

SUMMARY OF SOURCE TEST RESULTS - UNIT 1

Unit #1 Removal Efficiency %					
Parameter	Run 1	Run 2	Run 3	Average	Permit Limit
HCl RE%, ppm @ 7% O <sub>2</sub>	96.4	96.8	97.5	96.9	≥95%
Mercury RE%, ug/DSCM @ 7% O <sub>2</sub>	72.3	90.3	75.8	79.5	≥85%
Mercury RE%, lb/hr	71.8	89.9	75.3	79.0	≥85%
Sulfur Dioxide RE%, ppm @ 7% O <sub>2</sub>	97.0	99.7	99.8	98.8	≥80%

(1) Removal efficiencies are alternative compliance limit that can be satisfied to demonstrate compliance with a pollutant's emission standard.

TABLE 2.2

SUMMARY OF SOURCE TEST RESULTS - UNIT 2

Unit #2 SDA Inlet Concentrations					
Parameter	Run 1	Run 2	Run 3	Average	Permit Limit
Hydrogen Chloride, ppm @ 7% O <sub>2</sub>	723	813	711	749	NA
Mercury, ug/DSCM @ 7% O <sub>2</sub>	72.6	99.9	91.0	87.8	NA
Sulfur Dioxide, ppmvd @ 7% O <sub>2</sub>	118.8	124.6	106.1	116.5	NA

STACK

Unit #2 Stack Concentrations					
Parameter	Run 1	Run 2	Run 3	Average	Permit Limit
Carbon Monoxide, ppm @ 7% O <sub>2</sub>	10.4	9.9	9.0	9.8	100
Hydrogen Chloride, ppm @ 7% O <sub>2</sub>	23.1	24.2	23.2	23.5	25
Mercury, ug/DSCM @ 7% O <sub>2</sub>	21.0	21.0 <sup>(2)</sup>	19.5	20.5	70
Cadmium, mg/DSCM @ 7% O <sub>2</sub>	0.00086	0.00072 <sup>(2)</sup>	0.00027	0.00061	0.040 <sup>a</sup>
Lead, mg/DSCM @ 7% O <sub>2</sub>	0.00739	0.00732 <sup>(2)</sup>	0.00168	0.00546	0.440 <sup>a</sup>
Nitrogen Oxides, ppm @ 7% O <sub>2</sub>	144.7	144.2	142.1	143.7	180
Particulate, Gr/DSCF @ 7% O <sub>2</sub>	0.00123	0.00146 <sup>(2)</sup>	0.000975	0.00122	0.010
Sulfur Dioxide, ppm @ 7% O <sub>2</sub>	0.4	1.8	0.4	0.9	29

(1) Run number used in this Executive Summary is used to represent valid data. Actual field replicate number may vary owing to conditions existing at site.

(2) Conducted under normal soot blowing conditions.

**TABLE 2.2 A**

**SUMMARY OF SOURCE TEST RESULTS - UNIT 2**

<b>Unit #2 Stack Emission Rates, lb/hr</b>					
<b>Parameter</b>	<b>Run 1</b>	<b>Run 2</b>	<b>Run 3</b>	<b>Average</b>	<b>Permit Limit</b>
Carbon Monoxide	3.3	3.1	2.8	3.1	27.2
Hydrogen Chloride	9.23	9.70	9.24	9.39	17.70
Mercury	0.00554	0.00553 <sup>(1)</sup>	0.00507	0.00538	0.0379
Cadmium	0.000226	0.000190 <sup>(1)</sup>	0.0000688	0.000162	NA
Lead	0.00195	0.00193 <sup>(1)</sup>	0.000436	0.00144	0.165
Nitrogen Oxides	74.4	73.4	72.5	73.4	80
Particulate	0.743	0.881 <sup>(1)</sup>	0.579	0.734	5.34
Sulfur Dioxide	0.3	1.8	0.3	0.8	41

<sup>(1)</sup> Conducted under normal soot blowing conditions.

**TABLE 2.2 B**

**SUMMARY OF SOURCE TEST RESULTS - UNIT 2**

<b>Unit #1 Stack Emission Rates, Ton/Year</b>					
<b>Parameter</b>	<b>Run 1</b>	<b>Run 2</b>	<b>Run 3</b>	<b>Average</b>	<b>Permit Limit</b>
Carbon Monoxide <sup>(1)</sup>	14.5	13.6	12.3	13.4	108
Hydrogen Chloride <sup>(1)</sup>	40.4	42.5	40.5	41.1	70.7
Mercury <sup>(1)</sup>	0.0243	0.0242 <sup>(2)</sup>	0.0222	0.0236	0.166
Cadmium <sup>(1)</sup>	0.0010	0.0008 <sup>(2)</sup>	0.0003	0.0007	NA
Lead <sup>(1)</sup>	0.0085	0.0085 <sup>(2)</sup>	0.0019	0.0063	0.66
Nitrogen Oxides <sup>(3)</sup>	284	280	276	280	320
Particulate <sup>(1)</sup>	3.25	3.86 <sup>(2)</sup>	2.54	3.22	21.3
Sulfur Dioxide <sup>(1)</sup>	1.3	7.9	1.3	3.5	163.3

1) The ton/yr emission rate is based on 8,760 hr/yr, which is derived from 100% boiler availability during the year. The facility did not operate at 100% boiler availability during the 2005 calendar year. Thus, the actual emissions in tons per year are less than the value above based upon actual boiler availability.

2) Conducted under normal soot blowing conditions.

3) The ton/yr emission rate is based on 7625 hr/yr, the actual 2005 boiler operating hours.

TABLE 2.2 C

SUMMARY OF SOURCE TEST RESULTS - UNIT 2

Unit #2 Stack Emission Rates, lb/MMBtu					
Parameter	Run 1	Run 2	Run 3	Average	Permit Limit
Carbon Monoxide	0.011	0.010	0.009	0.010	0.10
Hydrogen Chloride	0.0314	0.0330	0.0315	0.0320	0.644
Mercury	0.0000189	0.0000189 <sup>(2)</sup>	0.0000176	0.0000184	0.000138
Cadmium	7.71E-07	6.47E-07 <sup>(2)</sup>	2.38E-07	5.52E-07	NA
Lead	6.64E-06	6.58E-06 <sup>(2)</sup>	1.51E-06	4.91E-06	0.00060
Nitrogen Oxides	0.249	0.248	0.244	0.247	0.290
Sulfur Dioxide	0.0010	0.0043	0.0011	0.0018	0.150

(1) Calculated using an  $F_d$  factor of 9570 dscf/10<sup>6</sup> Btu (40 CFR 60 Appendix A, Method 19, Section 3.1).

(2) Conducted under normal soot blowing conditions.

TABLE 2.2 D

SUMMARY OF SOURCE TEST RESULTS - UNIT 2

Unit #2 Removal Efficiency %					
Parameter	Run 1	Run 2	Run 3	Average	Permit Limit
HCl RE%, ppm @ 7% O <sub>2</sub>	96.8	97.0	96.7	96.9	≥95%
Mercury RE%, ug/DSCM @ 7% O <sub>2</sub>	71.1	79.0	78.6	76.2	≥85%
Mercury RE%, lb/hr	69.4	76.3	75.9	73.8	≥85%
Sulfur Dioxide RE%, ppm @ 7% O <sub>2</sub>	99.7	98.6	99.6	99.3	≥80%

(1) Removal efficiencies are alternative compliance limit that can be satisfied to demonstrate compliance with a pollutant's emission standard.

TABLE 2.3

SUMMARY OF SOURCE TEST RESULTS - DIOXINS AND FURANS - UNIT 1 <sup>(1)</sup>

Unit #1 - Summary					
Units	Run 1	Run 2	Run 3	Average	Permit Limit
ng/DSCM @ 7% O <sub>2</sub>	12.2	11.8	11.2	11.7	30
lbs/hr	3.07E-06	2.78E-06	2.67E-06	2.84E-06	7.0E-06
tons/year	1.34E-05	1.22E-05	1.17E-05	1.34E-05	2.80E-05
Lbs/MM BTU	1.10E-08	1.06E-08	1.00E-08	1.05E-08	2.54E-08

(1) Results are based on total Dioxins and Furans (tetra thru octa-chlorinated dioxins and furans).

(2) The ton/yr emission rate is based on 8,760 hr/yr, which is derived from 100% boiler availability during the year. The facility did not operate at 100% boiler availability during the 2005 calendar year. Thus, the actual emissions in tons per year are less than the value above based upon actual boiler availability.

(3) Calculated using an F<sub>d</sub> factor of 9570 dscf/10<sup>6</sup> Btu (40 CFR 60 Appendix A, Method 19, Section 3.1).



TABLE 2.4

SUMMARY OF SOURCE TEST RESULTS - Visible and Fugitive Emissions

Pollutant	----- RUN -----			Average	Permitted Maximum Emission Limit
	1	2	3		
<u>MWC Unit 1</u> Opacity, %	0	0	0	0	10
<u>MWC Unit 2</u> Opacity, %	0	0	0	0	10
<u>Ash Building</u> Opacity, %	0	0	0	0	5
<u>Lime Silo</u> Opacity, %	0	0	0	0	5
<u>Ash Handling System</u> Fugitive Emissions, %	0	0	0	0	5

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### 3.0 TEST PROGRAM

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**TABLE 3.1**  
**TEST PROGRAM**

Parameter	Permit Condition	Method	Location	Unit
Particulate Matter (PM) <sup>(1)</sup>	A.46	EPA Method 5	Stack	1, 2
Sulfur Dioxide (SO <sub>2</sub> )	A.49	EPA Method 6C	Stack	1, 2
Hydrogen Chloride (HCl) <sup>(3)</sup>	A.50	EPA Method 26	Inlet/Stack	1, 2
Carbon Monoxide (CO)	A.56	EPA Method 10	Stack	1, 2
Nitrogen Oxides (NO <sub>x</sub> )	A.52	EPA Method 7E	Stack	1, 2
Multi-metals (MMTL) <sup>(3)</sup>	A.47, A.48	EPA Method 29	Stack	1, 2
Mercury <sup>(3)</sup>	A.47	EPA Method 29	Inlet/Stack	1, 2
Dioxins/Furans (PCDD/PCDF) <sup>(4)</sup>	A.51	EPA Method 23	Stack	1
Oxygen (O <sub>2</sub> )		EPA Method 3A	Inlet/Stack	1, 2
Carbon Dioxide (CO <sub>2</sub> )				
Sulfuric Acid Mist (SAM)	A.35	EPA Method 8	Stack	1, 2
Opacity <sup>(1) (2)</sup>	A.46	EPA Method 9	Stack	1, 2
Opacity	B.4, C.4	EPA Method 9	Ash Bldg., Lime Silo	3, 4
Fugitive Emissions	A.60	EPA Method 22	Ash conveyor	

- 1.) One compliance test run was conducted under normal soot blowing conditions. A sampling duration of 120 minutes was used to ensure that the required volume of gas (60 ft<sup>3</sup>) is captured.
- 2.) One hour runs were conducted simultaneously with one particulate test run.
- 3.) HCl and Hg were sampled at the inlet and stack locations. Each parameter was sampled at the inlet and outlet simultaneously.
- 4.) In accordance with 60.58b(g)(5)(ii), the alternate testing schedule for dioxin/furan performance testing was conducted on Unit 1. Unit 2 was tested during 2005 compliance testing.
- 5.) Multi-Metals consist of lead and cadmium. (Arsenic and Beryllium are being tested prior to the renewal of the facility's Title V permit.)

**TABLE 3.2**  
**SCHEDULE OF ACTIVITIES**

<b>Run Date</b>	<b>Run Time</b>	<b>Run Number</b>	<b>Sampling Method</b>	<b>Flue Gas Parameter</b>	<b>Test Location</b>
6/27/2006	0842-1000	Unit #1 FF Outlet	EPA 3A, 6C, 7E, & 10	Sulfur Dioxide, Nitrogen Oxides, and Carbon Monoxide	1-O-CEM-1/2
6/27/2006	0842-1000	Unit #1 SDA Inlet	EPA 3A & 6C	Sulfur Dioxide	1-I-CEM-1/2
6/27/2006	0845-1109	Unit #1 SDA Inlet	EPA M29	Mercury	1-I-M29-1
6/27/2006	0845-1109	Unit #1 Stack	EPA 29	Particulate and Metals	1-S-M29-1
6/27/2006	0845-1405	Unit #1 Stack	EPA M23	Dioxins/Furans	1-S-M23-1
6/27/2006	0846-0946	Unit #1 SDA Inlet	EPA MM26	Hydrogen Chloride	1-I-MM26-1
6/27/2006	0846-0946	Unit #1 Stack	EPA MM26	Hydrogen Chloride	1-S-MM26-1
6/27/2006	0920-1020	Unit #1 Stack	EPA 9	Opacity	1-S-M9-1
6/27/2006	1103-1133	Lime Silo Vent	EPA 9	Opacity	LSV-M9-1
6/27/2006	1106-1219	Unit #1 FF Outlet	EPA 3A, 6C, 7E, & 10	Sulfur Dioxide, Nitrogen Oxides, and Carbon Monoxide	1-O-CEM-4/5
6/27/2006	1106-1219	Unit #1 SDA Inlet	EPA 3A & 6C	Sulfur Dioxide	1-I-CEM-4/5
6/27/2006	1140-1438	Unit #1 SDA Inlet	EPA M29	Mercury	1-I-M29-2
6/27/2006	1140-1438	Unit #1 Stack	EPA 29	Particulate and Metals	1-S-M29-2
6/27/2006	1141-1241	Unit #1 SDA Inlet	EPA MM26	Hydrogen Chloride	1-I-MM26-2
6/27/2006	1141-1241	Unit #1 Stack	EPA MM26	Hydrogen Chloride	1-S-MM26-2
6/27/2006	1232-1345	Unit #1 FF Outlet	EPA 3A, 6C, 7E, & 10	Sulfur Dioxide, Nitrogen Oxides, and Carbon Monoxide	1-O-CEM-6/7
6/27/2006	1232-1345	Unit #1 SDA Inlet	EPA 3A & 6C	Sulfur Dioxide	1-I-CEM-6/7
6/27/2006	1310-1420	Ash Handling System	EPA 22	Fugitive Emissions	M22-1
6/27/2006	1502-1732	Unit #1 SDA Inlet	EPA M29	Mercury	1-I-M29-3

Run Date	Run Time	Run Number	Sampling Method	Flue Gas Parameter	Test Location
6/27/2006	1502-1732	Unit #1 Stack	EPA 29	Particulate and Metals	1-S-M29-3
6/27/2006	1503-1603	Unit #1 SDA Inlet	EPA MM26	Hydrogen Chloride	1-I-MM26-3
6/27/2006	1503-1603	Unit #1 Stack	EPA MM26	Hydrogen Chloride	1-S-MM26-3
6/28/2006	0747-1200	Unit #1 Stack	EPA M23	Dioxins/Furans	1-S-M23-2
6/28/2006	0803-0917	Unit #2 FF Outlet	EPA 3A, 6C, 7E, & 10	Sulfur Dioxide, Nitrogen Oxides, and Carbon Monoxide	2-O-CEM-1/2
6/28/2006	0803-0917	Unit #2 SDA Inlet	EPA 3A & 6C	Sulfur Dioxide	2-I-CEM-1/2
6/28/2006	0823-1112	Unit #2 SDA Inlet	EPA M29	Mercury	2-I-M29-1
6/28/2006	0823-1112	Unit #2 Stack	EPA 29	Particulate and Metals	2-S-M29-1
6/28/2006	0824-0924	Unit #2 SDA Inlet	EPA MM26	Hydrogen Chloride	2-I-MM26-1
6/28/2006	0824-0924	Unit #2 Stack	EPA MM26	Hydrogen Chloride	2-S-MM26-1
6/28/2006	0830-0930	Unit #2 Stack	EPA 9	Opacity	2-S-M9-1
6/28/2006	0950-1020	Ash Building Baghouse	EPA 9	Opacity	ABBV-M9-1
6/28/2006	0956-1101	Unit #2 SDA Inlet	EPA MM26	Hydrogen Chloride	2-I-MM26-2
6/28/2006	0956-1101	Unit #2 Stack	EPA MM26	Hydrogen Chloride	2-S-MM26-2
6/28/2006	1016-1131	Unit #2 FF Outlet	EPA 3A, 6C, 7E, & 10	Sulfur Dioxide, Nitrogen Oxides, and Carbon Monoxide	2-O-CEM-4/5
6/28/2006	1016-1131	Unit #2 SDA Inlet	EPA 3A & 6C	Sulfur Dioxide	2-I-CEM-4/5
6/28/2006	1025-1135	Ash Handling System	EPA 22	Fugitive Emissions	M22-2
6/28/2006	1146-1400	Unit #2 Stack	EPA 29	Particulate and	2-S-M29-2

Run Date	Run Time	Run Number	Sampling Method	Flue Gas Parameter	Test Location
				Metals	
6/28/2006	1146-1407	Unit #2 SDA Inlet	EPA M29	Mercury	2-I-M29-2
6/28/2006	1147-1247	Unit #2 SDA Inlet	EPA MM26	Hydrogen Chloride	2-I-MM26-3
6/28/2006	1147-1247	Unit #2 Stack	EPA MM26	Hydrogen Chloride	2-S-MM26-3
6/28/2006	1147-1302	Unit #2 FF Outlet	EPA 3A, 6C, 7E, & 10	Sulfur Dioxide, Nitrogen Oxides, and Carbon Monoxide	2-O-CEM-6/7
6/28/2006	1147-1302	Unit #2 SDA Inlet	EPA 3A & 6C	Sulfur Dioxide	2-I-CEM-6/7
6/28/2006	1220-1624	Unit #1 Stack	EPA M23	Dioxins/Furans	1-S-M23-3
6/28/2006	1230-1340	Ash Handling System	EPA 22	Fugitive Emissions	M22-3
6/28/2006	1447-1702	Unit #2 SDA Inlet	EPA M29	Mercury	2-I-M29-3
6/28/2006	1447-1703	Unit #2 Stack	EPA 29	Particulate and Metals	2-S-M29-3
6/27/2006	0842-1000	Unit #1 FF Outlet	EPA 3A, 6C, 7E, & 10	Sulfur Dioxide, Nitrogen Oxides, and Carbon Monoxide	1-O-CEM-1/2

TABLE 3.3  
TEST PARTICIPANTS

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Covanta Energy, Inc.

Daryl Fickling

Covanta Lee, Inc.

Becky Macionski

TESTAR, Inc.

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#### 4.0 OPERATIONAL DATA DURING EMISSION TESTING

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#### 4.0 OPERATIONAL DATA DURING EMISSION TESTING

Operational data were collected from process recorders connected to plant instruments. The operator logs are in Volume 3.

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## 5.0 METHODOLOGY

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**TABLE 5.1**  
REFERENCES

Parameter	Test Method	Reference
PM	EPA 5	40 CFR 60, App. A
SO <sub>2</sub>	EPA 6C	40 CFR 60, App. A
HCl	EPA 26	40 CFR 60, App. A
CO	EPA 10	40 CFR 60, App. A
NO <sub>x</sub>	EPA 7E	40 CFR 60, App. A
PCDD/PCDF	EPA 23	40 CFR 60, App. A
O <sub>2</sub> / CO <sub>2</sub>	EPA 3A	40 CFR 60, App. A
SAM	EPA 8	40 CFR 60, App. A
FL	EPA 13B	40 CFR 60, App. A
NH <sub>4</sub>	CTM-027	Not Applicable
VOCs	EPA 25A	40 CFR 60, App. A
Opacity	EPA 9	40 CFR 60, App. A
MMTL <sup>(1)</sup>	EPA 29	40 CFR 60, App. A
FE	EPA 22	40 CFR 60, App. A

<sup>(1)</sup> Multi-metals testing include Pb, Cd, Ar, Be, and Hg.

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**APPENDIX A: PERMIT REQUIRED PROCESS DATA SUMMARY**

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**Lee County Solid Waste Resource Recovery Facility  
2006 Compliance Stack Test Established Limits**

	Carbon <i>lbs/hr</i>	BH Inlet Temp <i>degrees Farenheit</i>	Steam Flow <i>kilo-pounds</i>
Unit #1	33.4	320	188
Unit #2	33.4	320	188

(1) In accordance with 40 CFR 60, Subpart Cb, the maximum fabric filter inlet temperature established is based on a four-hour block average.

(2) In accordance with EPA's Federal Implementation plan guidance, the activated carbon injection rate is established based on a total amount of carbon injected during an eight-hour period.

## Maximum Demonstrated Unit Load EPA Method 23 Compliance Stack Test Parameters

Unit #1**	Date	Time	4 Hr Avg.*	Unit #2	Date	Time	4 Hr Avg.*
<u>Unit #1- Run 1</u>	06/27/06	0845-1405	170	<u>Unit #1- Run 1</u>	06/27/06	0845-1405	170
<u>Unit #1- Run 2</u>	06/28/06	0747-1200	170	<u>Unit #1- Run 2</u>	06/28/06	0747-1200	170
<u>Unit# 1- Run 3</u>	06/28/06	1220-1624	171	<u>Unit# 1- Run 3</u>	06/28/06	1220-1624	171

Permitted Limit - 110% of the HFHBA is the Maximum Unit Load  
 (HFHBA- Highest Four Hour Block Average) 188  
 kilo pounds/ hour

Permitted Limit - 110% of the HFHBA is the Maximum Unit Load  
 (HFHBA- Highest Four Hour Block Average) 188  
 kilo pounds/ hour

\*The 4 hour average is based on the average of all the valid 1 minute data collected during the specified Run start time to stop time.

\*\*In accordance with 40 CFR 60.38(b) the facility elected the alternative test schedule for Dioxin/Furan in the 2006 compliance year. Unit #1 was tested. The 2006 conditions used for Unit #1 will apply as the operating limits for Unit #2.

## Maximum Demonstrated Particulate Matter Control Device Inlet Temperature EPA Method 23 Compliance Stack Test Parameters

Unit #1**	Date	Time	4 Hr Avg.*	Unit #2	Date	Time	4 Hr Avg.*
<u>Unit #1- Run 1</u>	06/27/06	0845-1405	290	<u>Unit #1- Run 1</u>	06/27/06	0845-1405	290
<u>Unit #1- Run 2</u>	06/28/06	0747-1200	290	<u>Unit #1- Run 2</u>	06/28/06	0747-1200	290
<u>Unit# 1- Run 3</u>	06/28/06	1220-1624	290	<u>Unit# 1- Run 3</u>	06/28/06	1220-1624	290

Permit Limit - 30 deg. Fahrenheit above the HFHBA is the Max. FF Inlet Temp.  
(HFHBA- Highest Four Hour Block Average)

320

degrees Fahrenheit

Permit Limit - 30 deg. Fahrenheit above the HFHBA is the Max. FF Inlet Temp.  
(HFHBA- Highest Four Hour Block Average)

320

degrees Fahrenheit

\*The 4 hour average is based on the average of all the valid 1 minute data collected during the specified Run start time to stop time.

\*\*In accordance with 40 CFR 60.38(b) the facility elected the alternative test schedule for Dioxin/Furan in the 2006 compliance year. Unit #1 was tested. The 2006 conditions used for Unit #1 will apply as the operating limits for Unit #2.

## Estimated Carbon Mass Feed Rate

### EPA Method 29

Unit #1	Date	Time	Average*
<u>Unit #1 - Run 1</u>	06/27/06	0845-1109	33.4
<u>Unit #1 - Run 2</u>	06/27/06	1140-1438	33.4
<u>Unit #1- Run3</u>	06/27/06	1502-1732	33.4

### EPA Method 23

Unit #1**	Date	Time	Average*
<u>Unit #1- Run 1</u>	06/27/06	0845-1405	33.3
<u>Unit #1- Run 2</u>	06/28/06	0747-1200	33.4
<u>Unit# 1- Run 3</u>	06/28/06	1220-1624	33.4

Permitted Limit - operating parameters that are primary indicators of the feed rate must equal the levels documented

33.4  
pounds/hour

Permitted Limit - operating parameters that are primary indicators of the feed rate must equal the levels documented

33.4  
pounds/hour

**\*The average carbon injection rate (pounds per hour) is based upon the average of all the valid 1-minute data points collected during the specified Run start time to stop time.**

**\*\*In accordance with 40 CFR 60.38(b) the facility elected the alternative test schedule for Dioxin/Furan in the 2006 compliance year. Unit #1 was tested. The 2006 conditions used for Unit #1 will apply as the operating limits for Unit #2.**



## Estimated Carbon Mass Feed Rate

### EPA Method 29

Unit #2	Date	Time	Average*
<u>Unit #1- Run 1</u>	06/28/06	0823-1112	33.4
<u>Unit #1- Run 2</u>	06/28/06	1146-1400	33.4
<u>Unit# 1- Run 3</u>	06/28/06	1447-1703	33.4

Permitted Limit - operating parameters that are primary indicators of the feed rate must equal the levels documented  
 33.4  
 pounds/hour

### EPA Method 23

Unit #2	Date	Time	Average*
<u>Unit #1- Run 1</u>	06/27/06	0845-1405	33.3
<u>Unit #1- Run 2</u>	06/28/06	0747-1200	33.4
<u>Unit# 1- Run 3</u>	06/28/06	1220-1624	33.4

Permitted Limit - operating parameters that are primary indicators of the feed rate must equal the levels documented  
 33.4  
 pounds/hour

\*The average carbon injection rate (pounds per hour) is based upon the average of all the valid 1-minute data points collected during the specified Run start time to stop time.

\*\*In accordance with 40 CFR 60.38(b) the facility elected the alternative test schedule for Dioxin/Furan in the 2006 compliance year. Unit #1 was tested. The 2006 conditions used for Unit #1 will apply as the operating units for Unit #2.