Covanta Lee, Inc.

Fort Myers, Florida

The Lee County Solid Waste Resource Recovery Facility, located in Southwest Florida, began commercial operation in December 1994 to serve the needs of both Hendry and Lee counties.

The facility processes 1,200 tons per day of solid waste to generate up to 39.7 megawatts of renewable energy that is sold to Seminole Electric Cooperative. The facility uses secondary sewage treatment effluent from a nearby treatment plant for the majority of its process water and is equipped with both ferrous and non-ferrous recovery systems to remove all metals from the residue.

As part of the facility, there is a public drop-off center where residents can bring non-hazardous household items for disposal.

The Lee County Solid Waste Resource Recovery Facility

COVANTA ENERGY

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Recycling Waste Into Energy

At the Lee County Facility mass burn combustion system, waste is combusted at temperatures above 1,800 degrees Fahrenheit. It is reduced to an inert ash residue that is approximately 10% of its original volume. The ash residue is disposed in a lined landfill in Hendry County.

Combustion gases pass through modern pollution control equipment. The facility houses dry flue gas scrubbers, fabric filter baghouses and mercury and nitrogen oxide abatement systems. Facility emissions are continuously monitored and strictly regulated by state and federal agencies.

An Integrated System

Covanta and Lee County officials recognize that no single method of waste disposal will handle all the waste generated by area residents. But as the cornerstone of a completely integrated system, Covanta provides Lee and Hendry County residents with a proven, environmentally sound method of waste disposal. It also provides a reliable, cost-effective source of energy.

This integrated system also includes a comprehensive recycling program with curbside collection, a household hazardous waste collection program, horticultural waste composting and landfilling. A battery collection program helps remove mercury from the waste stream. And, ferrous metals are recovered from the facility, which improves county recycling rates.

The Lee County Solid Waste Resource Recovery Facility is located at 10500 Buckingham Road in Fort Myers. For more information, please call 941-337-2200.

Facility Specifications

Rated Refuse Capacity
1,200 tons per day

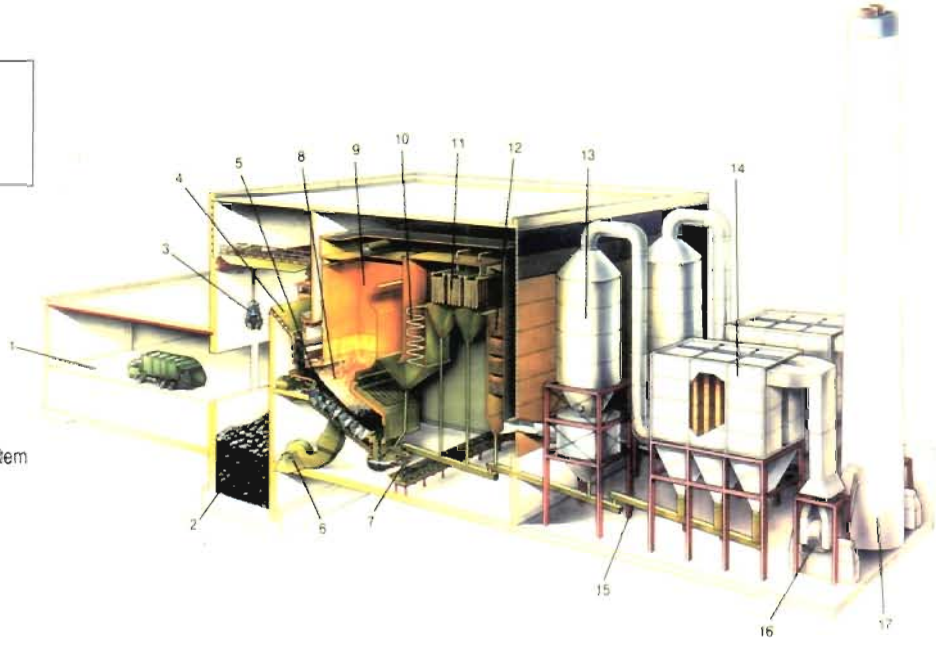
Unit Design
Two 600 ton-per-day waterwall furnaces

Guaranteed Throughput
372,300 tons per year

Guaranteed Waste Delivery
279,225 to 372,300 tons per year

Energy Generation at Rated Capacity
Up to 39.7 MW, sold to Seminole Electric Cooperative

A Typical COVANTA Waste-to-Energy Facility



1. Tipping Floor
2. Refuse Holding Pit
3. Grapple Feed Chute
4. Feed Chute
5. Martin Stoker Grate
6. Combustion Air Fan
7. Martin Ash Discharger
8. Combustion Chamber
9. Radiant Zone (furnace)
10. Convection Zone
11. Superheater
12. Economizer
13. Dry Gas Scrubber
14. Baghouse
15. Fly Ash Handling System
16. Induced Draft Air Fan
17. Stack

Refuse collection trucks are weighed at the scalehouse and monitored for safety. Once cleared, they enter the tipping building and dump their waste into the storage pit. An overhead crane mixes the waste in the pit and lifts the waste up into a feed chute leading to the furnace. From the feed chute, waste is pushed by hydraulic ram feeders onto a stoker grate. The MARTIN Reverse-Reciprocating Stoker is sloped downward and is composed of alternate rows of fixed and moving grate bars. The grate bars push upward against the natural downward movement of the waste bed. This constant movement ensures that the burning waste is continually agitated and pushed back, thus serving as underfire for freshly-fed waste. A forced draft fan supplies the primary combustion air underneath the grate. In addition, overfire air is injected through the front and rear walls of the furnace.

Inside the steel tubes that form the furnace walls and the boiler, heat from the combustion process converts water to steam. The superheater further heats the steam before it is sent to a turbine generator to produce electricity. After passing through the boiler sections, the hot combustion gases are used to preheat boiler feedwater in the economizer.

While the combustion gases move through the boiler, the bottom ash slowly makes its way to the end of the grate where it falls into the water quench trough of the Martin Ash Discharger.

From the boiler, the cooled gases enter the advanced air pollution control system. Using the lime slurry, the dry scrubber neutralizes any acid-forming gases, such as sulfur oxides and hydrogen chloride.

As the gas stream travels through these filter devices, more than 99 percent of particulate matter is removed. Captured fly ash particles fall into hoppers and are transported by an enclosed conveyor system to the Martin Ash Discharger where they are wetted to prevent dust, and mixed with the bottom ash from the grate. The ash residue is then conveyed to an enclosed building where it is loaded into trucks and taken to a landfill designed to protect against groundwater contamination. Ash residue from the furnace can be processed for removal of recyclable scrap iron.

All aspects of the plant's operation are monitored from the central control room 24 hours a day, seven days a week, 365 days a year.

COVANTA ENERGY

Covanta Lee, Inc.
10500 Buckingham Road
Fort Meyers, FL 33905
941-337-2200

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Covanta Lee, Inc.
A Covanta Energy Company
10500 Buckingham Road
Fort Myers, FL 33905
Tel 941 337 2200
Fax 941 337 2510

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RESOURCE MANAGEMENT

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BUREAU OF AIR REGULATION

March 20, 2006

Mr. Ronald Blackburn
Air Program Administrator
Florida Department of Environmental Protection
South Florida District
2295 Victoria Avenue
Suite 364
Fort Myers, Florida 33901

RE: 2004 Source Test Protocol

Dear Mr. Blackburn,

Attached please find the source test protocol for the Lee County Solid Waste Resource Recovery Facility. The specified testing will be performed in accordance with the provision contained within the facility's Title V Air Operation Permit No. 0710119-003-AV. Testing is scheduled to begin on June 26, 2006 and continue through June 30, 2006.

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.

Sincerely,

Jody L. Howard
Facility Manger

cc: M. Cooke (FDEP)
L. Sampson (LC-SWMD)
O. Allen
J. Aldina
D. Adgate
B. Macionski
File

COVANTA ENERGY

Lee County Solid Waste
Resource Recovery Facility

SOURCE TEST PLAN - COV REPORT NO. 3104

March 24, 2006

Source Information

Facility:	Lee County Resource Recovery Facility 10500 Buckingham Road Ft. Myers, FL 33905
Purpose of Test:	Demonstration of Compliance with Florida Department of Environmental Protection Title V Permit No. 0710119-003-AV, 40 CFR 60, Subpart Cb and Appendices B & F.
Operator:	Covanta Lee, Inc.
Person(s) to Contact:	Mr. Jody L. Howard, Facility Manager (239) 337-2200 Ext. 4 Mr. G. J. Aldina Sr. Vice President, Environmental Testing/CEM (973) 882-4136

Testing Firm Information

Company:	Testar, Inc. Herb Dixon, P.E. (919) 957-9500

Testing Information

Procedure:	Testing two solid waste fired boilers for air pollutant emissions. Perform a relative accuracy test audit (RATA) on the continuous emission monitoring system (CEMS).
Test Dates:	June 26-30, 2006

TABLE OF CONTENTS

Reference: Title V Permit No. 0710119-003-AV

1.0 INTRODUCTION

The Lee County Solid Waste Resource Recovery Facility has scheduled testing on the following emissions units: MWC Unit #1, MWC Unit #2, Lime Silo, and the Ash handling building. This testing will be performed to determine compliance with the Florida Department of Environmental Protection, Title V Permit No. 0710119-003-AV and 40 CFR 60, Subpart Cb.

Unit #1 and Unit #2 process materials such as municipal solid waste (MSW) and other solid waste consistent with the definition provided in Specific Condition A.10.1. The materials processed during each stack test run will consist of crane grapple loads of well-mixed refuse pulled from the storage pit. This refuse is received as part of the county's solid waste management program.

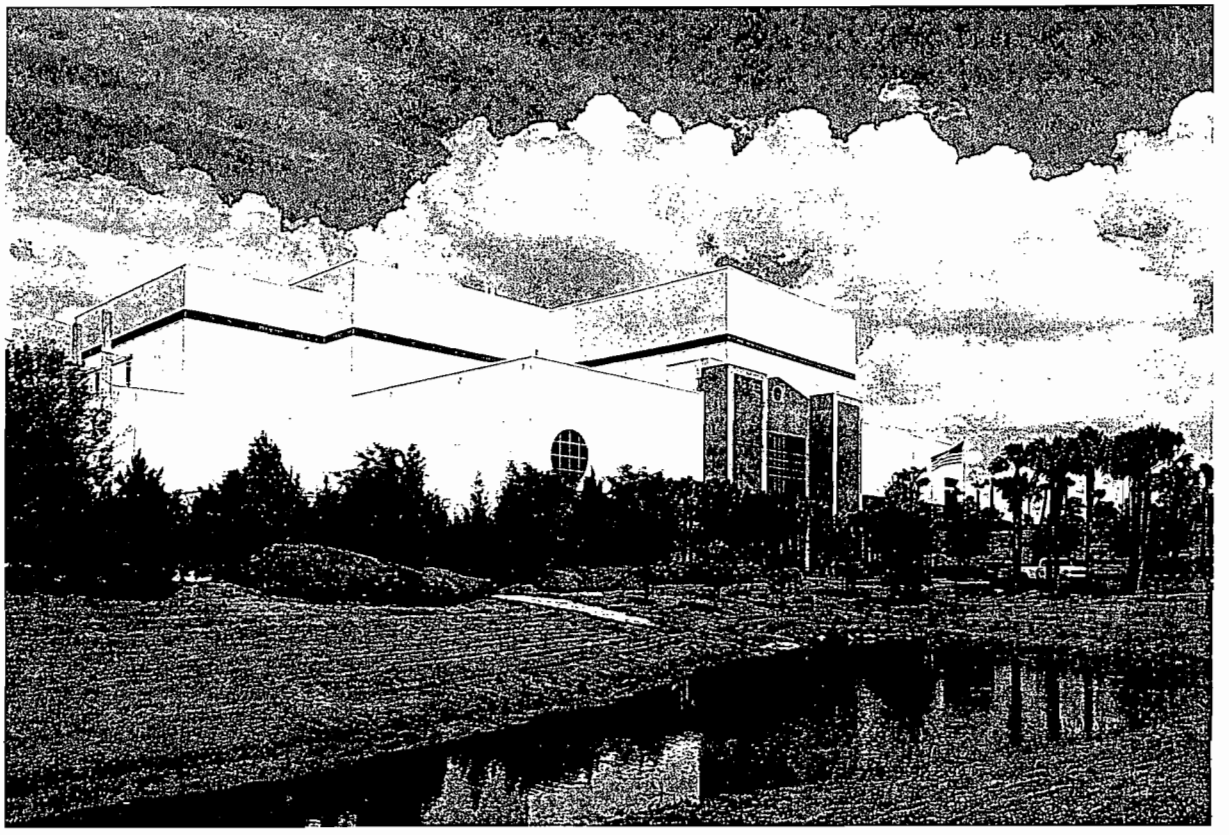
Incoming segregated loads of waste tire weights are measured at the scale house located at the entrance of the facility. The facility will not combust used tires in excess of 5% by weight in accordance with Specific Condition A.10.1.

In accordance with 40 CFR 60.38b(b), the Lee facility is following the alternate performance schedule to conduct annual dioxin/furan performance test for one affected unit per year. All performance tests over a two year period indicates that dioxin/furan emissions are less than or equal to 15 nanograms per dry standard cubic meter (total mass). The plant will test dioxin/furan emissions only on Unit 1.

2.0 DESCRIPTION OF OPERATIONS

Covanta Lee, Inc.

Fort Myers, Florida



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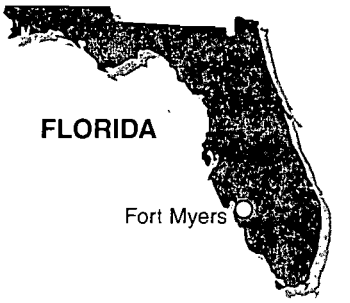

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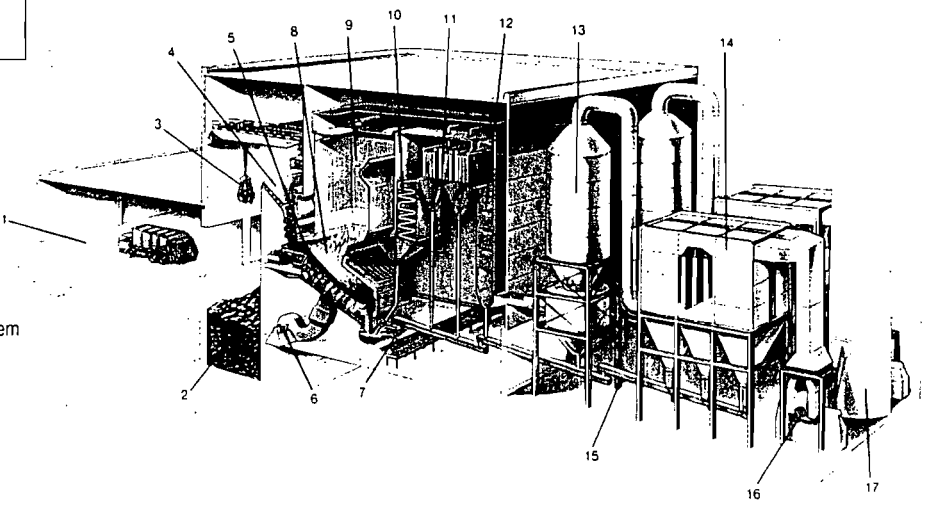

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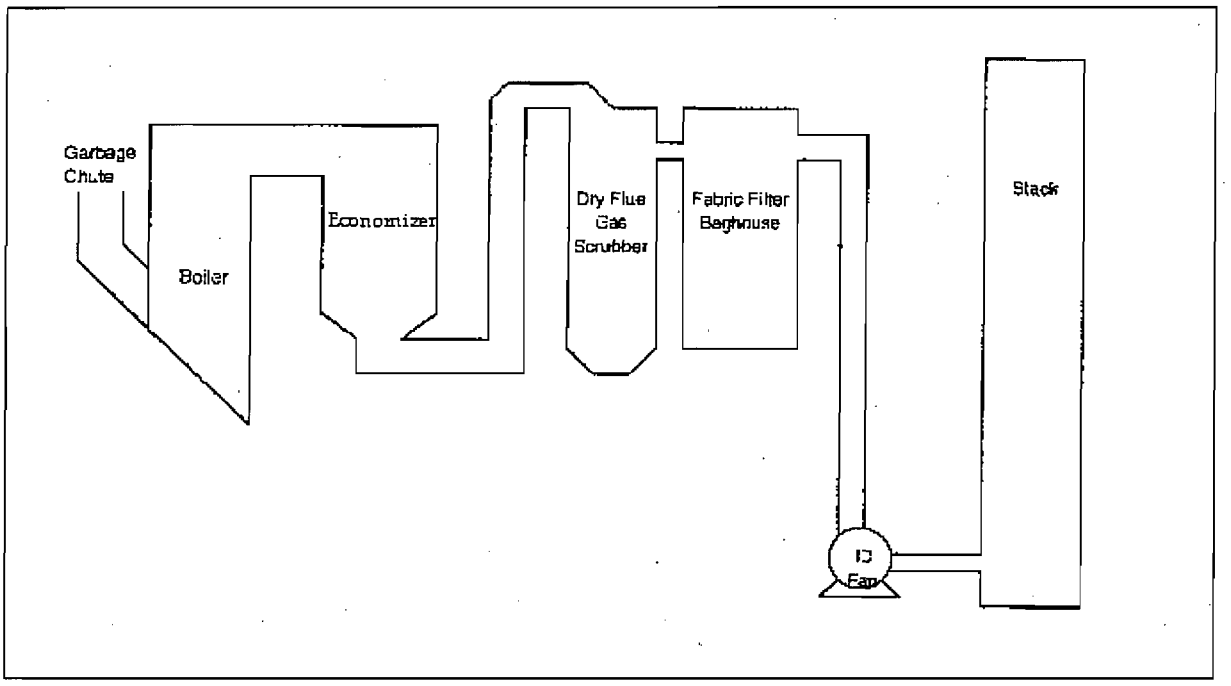
2.2 Flow Diagram of Process



The Covanta Lee County Solid Waste Resource Recovery Facility is located in Ft. Myers, Florida. The facility consists of two identical municipal solid waste-fired boilers of Martin GmbH Stoker Combustion System design. The combustors each have a capacity of 660 tons/day for a total of 1,320 tons/day of MSW (this is equivalent to a maximum heat input of 275 MMBTU/hr per unit) The facility produces up to 40 MW of electricity daily. Each MWC unit exhausts through a separate flue stack. Air pollution equipment for each independent train includes dry scrubbers for acid gas control, fabric filter for particulate removal, selective non-catalytic reduction (SNCR) for control of nitrogen oxides and dry activated carbon injection system for mercury emission controls. Each unit is also equipped with a continuous emission monitoring system to provide feedback on the effectiveness of the air pollution control (APC) equipment.

3.0 SOURCE TEST INFORMATION

3.1 EMISSION TEST PARAMETERS

Table 3-1A: Emission Test Procedures

Pollutant [9]	Permit Condition	Sampling Method	Location / Unit No.	Replicates	Approximate Run Sample Time (Minutes)
Particulate Matter (PM)	A.21, A.46	U.S. EPA Method 5	Stack 1, 2	1, 2, 3 [5]	120
Particulate Matter <10 (PM_{10})	A.21, A.46	U.S. EPA Method 5 [3]	Stack 1, 2	1, 2, 3	120
Opacity	A.22	U.S. EPA Method 9	Stack 1, 2	1 [6]	60
Opacity	B.3 & C.3	U.S. EPA Method 9	Lime Silo & Ash Bldg.	1 [7]	30
Sulfur Dioxide (SO_2) [1]	A.30, A.49	U.S. EPA Method 6C [10]	Inlet/Stack 1, 2	1, 2, 3	60
Nitrogen Oxides (NO_x)	A.33, A.52	U.S. EPA Method 7E [10]	Stack 1, 2	1, 2, 3	60
Carbon Monoxide (CO)	A.34, A.56	U.S. EPA Method 10 [10]	Stack 1, 2	1, 2, 3	60
Hydrogen Chloride (HCl) [1]	A.31, A.50	U.S. EPA Method 26 [4]	Inlet/Stack 1, 2	1, 2, 3	60
Dioxins/Furans (PCDD/PCDF)	A.32, A.51	U.S. EPA Method 23	Stack 1	1, 2, 3	240
Fugitive Emissions (FE)	A.38, A.60	U.S. EPA Method 22	Ash Conveyor 1, 2, 3	60	
Mercury (Hg) [1]	A.24, A.25, A.47, A.48	U.S. EPA Method 29	Inlet/Stack 1, 2	1, 2, 3	120
Multi-metals (MMTL) [2] [9]	A.23, A.26, A.47	U.S. EPA Method 29	Stack 1, 2	1, 2, 3	120
Oxygen/Carbon Dioxide (O_2 / CO_2)	----------	U.S. EPA Method 3/3A	Inlet/Stack 1, 2	1, 2, 3	------ [8]

[1] Inlet and stack locations shall be sampled simultaneously.

[2] Multi-Metals consists of lead and cadmium

[3] A total PM test using EPA Method 5 can be used to demonstrate that the PM less than 10 microns is less than the permitted limit established in permit condition A.21.

[4] A minor modification will be made to the RM 26 (HCl) sampling train to include large impingers (Method 5-type) to avoid sampling problems. The reagents used in the sampling train will be as described in the method for HCl sampling (40 CFR 60, Reference Method 26, Section 4.1.1) except using larger volume for the large impingers. The second pair of impingers will use distilled water only.

[5] One 1-hour test run shall be conducted during soot blowing conditions. A sampling duration of 120 minutes for each test run is typically used to ensure that the required volume of gas (60 ft^3) is captured.

[6] One-hour visible emission observations shall be conducted simultaneously with one PM, EPA Method 5 test run.

[7] At the lime silo baghouse, one 30-minute run shall be conducted while a truck is unloading lime into the lime silo. One 30-minute run shall be conducted at the ash handling building baghouse.

[8] O_2 / CO_2 will be tested concurrently with each pollutant except opacity.

[9] Condition A.66.1. Testing Frequency indicates that compliance with the emission limitations of this permit shall be determined by annual emission testing, except that testing for arsenic, beryllium, fluoride, sulfuric acid mist, ammonia and VOC shall be performed prior to renewal of each operation permit.

[10] Test runs will be performed concurrent with isokinectic flow measurements to obtain mass emission rates. Two 30-minute RATA runs will be combined for one 60-minute compliance run.

Dioxins and furan emissions will be reported in units of the standard and will include the isomers listed in Table 3.1b:

Table 3.1b: Dioxin/Furan Isomers

2378 TCDD
Other TCDD
12378 PeCDD
Other PeCDD
123478 HxCDD
123678 HxCDD
123789 HxCDD
Other HxCDD
1234678 HpCDD
Other HpCDD
OCDD
Total PCDD
2378 TCDF
Other TCDF
12378 PeCDF
23478 PeCDF
Other PeCDF
123478 HxCDF
123678 HxCDF
123789 HxCDF
234678 HxCDF
Other HxCDF
1234678 HpCDF
1234789 HpCDF
Other HpCDF
OCDF
Total PCDF
Total 2,3,7,8 TCDD Equivalents

3.2 CONTINUOUS EMISSION MONITORING SYSTEM

A relative accuracy test audit (RATA) will be performed on the continuous emission monitoring system (CEMS) as required by 40 CFR 60, Appendices B & F. The CEM system consists of the following analyzers:

Table 3-2: RATA Test Procedures

Pollutant Monitor	Unit Number	Location	Emission Limit	Range	Monitor Manufacturer	Model Number	Serial Number
O_2	1	Economizer Outlet	----------	0-25%	Servomex	1420	1420/B146
SO_2[(1)]	1	Economizer Outlet	----------	0-1000 ppm	Western Research	721M	93-721M-8056-8
CO_2	1	Economizer Outlet	----------	0-20%	Milton Roy	ZRH1	N2L1474T
CO	1	Economizer Outlet	100 ppmdv @ 7% O_2	0-500 ppm/ 0-2000 ppm	TECO	48	48-45332-273
SO_2	1	Stack	29 ppmdv @ 7% O_2	0-400 ppm	Western Research	721M	93-721M-8056-7
O_2	1	Stack	----------	0-25%	Servomex	1420	1420/B143
NO_x	1	Stack	180 ppmdv @ 7% O_2	0-500 ppm	TECO	42H	42H-50337-285
CO_2 /CO	1	Stack	CO: 100 ppmdv @ 7% O_2	0-20%/0-500 ppm	Milton Roy	ZRH2	N2L1452T
O_2	2	Economizer Outlet	----------	0-25%	Servomex	1420	1420/B141
SO_2[(1)]	2	Economizer Outlet	----------	0-1000 ppm	Western Research	721M	93-721M-8056-5
CO_2	2	Economizer Outlet	----------	0-20%	Milton Roy	ZRH1	N2L1462T
CO	2	Economizer Outlet	100 ppmdv @ 7% O_2	0-500 ppm/ 0-2000 ppm	TECO	48	48-46041-275
SO_2	2	Stack	29 ppmdv @ 7% O_2	0-400 ppm	Western Research	721M	93-721M-8056-6
O_2	2	Stack	----------	0-25%	Servomex	1420	1420/B142
NO_x	2	Stack	180 ppmdv @ 7% O_2	0-500 ppm	TECO	42H	42H-45488-274
CO_2 /CO	2	Stack	CO: 100 ppmdv @ 7% O_2	0-20%/0-500 ppm	Milton Roy	ZRH2	N2L1451T

1.) If low sulfur dioxide levels at the inlet are present during the scheduled test audit (less than 50ppm), the facility is requesting a waiver of relative accuracy test as specified in 40 CFR 60, Appendix F, Performance Specification 2, Section 16, Alternative Procedure .

3.2 CONTINUOUS EMISSION MONITORING SYSTEM - CONT'D

Table 3.2 Emission Test Procedure Notes

Additional Information:

The following are typical Contractor analyzer ranges and nominal calibration gas concentrations for performing the RATA in accordance with 40 CFR 60, Appendix A, 3A, 6C, 7E, and 10 and Appendix B, Performance Specifications 2, 3, 4 and 4A. The actual values may vary depending on the selected contractor.

Units 1, 2 SDA Inlets

Gas	Range	Approximate Calibration Gas Concentration
SO_2	0-500 ppm	200-300 ppm, 400-500 ppm
O_2	0-25%	10-15%, 20-25%
CO_2	0-20%	8-12%, 16-20%
CO	0-500 ppm	150 ppm, 300 ppm, 450 ppm

Units 1, 2 Stacks

Gas	Range	Approximate Calibration Gas Concentration
SO_2	0-200 ppm	80-120 ppm, 160-200 ppm
NOx	0-500 ppm	200-300 ppm, 400-500 ppm
CO_2	0-20 %	8-12%, 16-20%
O_2	0-25%	10-15%, 20-25%
CO	0-500 ppm	150 ppm, 300 ppm, 450 ppm

4.0 SCHEDULE OF ACTIVITIES

4.0 TEST PROGRAM

Table 4-1: Schedule of Activities[1]

Day	Parameter	Unit	Location	Test Method	Replicates
0	Setup	-------	-------	-------	-------
1	SO_2 [3]	1	Inlet/Stack	EPA 6C	1, 2, 3
	NO_x, CO	1	Stack	EPA 7E, 10	1, 2, 3
	O_2, CO_2, SO_2, NO_x, CO-low/hi (RATA)	1	Inlet/Stack	EPA 3A, 6C, 7E, 10	1-9
	PM/PM_{10}	1	Stack	EPA 5	1, 2, 3 [2]
	PM/PM_{10}	2	Stack	EPA 5	1, 2, 3 [2]
	Opacity	1	Stack	EPA 9	1, 2, 3
	Opacity	2	Stack	EPA 9	1, 2, 3
	Opacity		Ash Building	EPA 9	1
	Opacity		Lime Silo	EPA 9	1
	FE		Ash Conveyor	EPA 22	1, 2, 3
2	MMTL	1	Stack	EPA 29	1, 2, 3
	HCl [3]	1	Inlet/Stack	EPA 26	1, 2, 3
	Hg [3]	1	Inlet/Stack	EPA 29	1, 2, 3
3	MMTL	2	Stack	EPA 29	1, 2, 3
	HCl [3]	2	Inlet/Stack	EPA 26	1, 2, 3
	Hg [3]	2	Inlet/Stack	EPA 29	1, 2, 3
	PCDD/PCDF	1	Stack	EPA 23	1
4	PCDD/PCDF	1	Stack	EPA 23	2, 3
	SO_2 [3]	2	Inlet/Stack	EPA 6C	1, 2, 3
	NO_x, CO	2	Stack	EPA 7E, 10	1, 2, 3
	O_2, CO_2, SO_2, NO_x, CO-low/hi (RATA)	2	Inlet/Stack	EPA 3A, 6C, 7E, 10	1-9

[1] Schedule may change during testing to accommodate site conditions.

[2] One test runs will be conducted under normal soot blowing conditions.

[3] Hg, HCl and SO_2 shall be sampled at the inlet and stack.

5.0 SAMPLING AREA DESCRIPTION

5.1 Sampling Area Descriptions

Inlet Test Sampling Locations

The inlet test sampling ports are located in the Spray Dry Gas Scrubber inlet duct. This rectangular duct is 120 inches by 62 inches wide with five test ports equally spaced apart, 4 inches in diameter each. The test ports are 1.47 duct diameters (120 inches) upstream and 1.22 duct diameters (100 inches) downstream from the nearest flow disturbances. See Figure 5-1 for drawing of the test port locations.

Outlet Test Sampling Locations

The outlet test sampling ports are located in the circular ductwork between the induced draft fan outlet and the stack outlet. This circular duct is 78 inches in diameter with two sampling test ports, 6 inches in diameter. The sampling locations are identical for Units 1 and 2. The test ports are 8.3 duct diameters (648 inches) upstream and 36.3 duct diameters (2832 inches) downstream from the nearest flow disturbances. See Figure 5-2 for drawing of the test port locations for further details.

Additional Port Locations

Reference sample port locations for the RATA are shown in Figures 5-3 and 5-4.

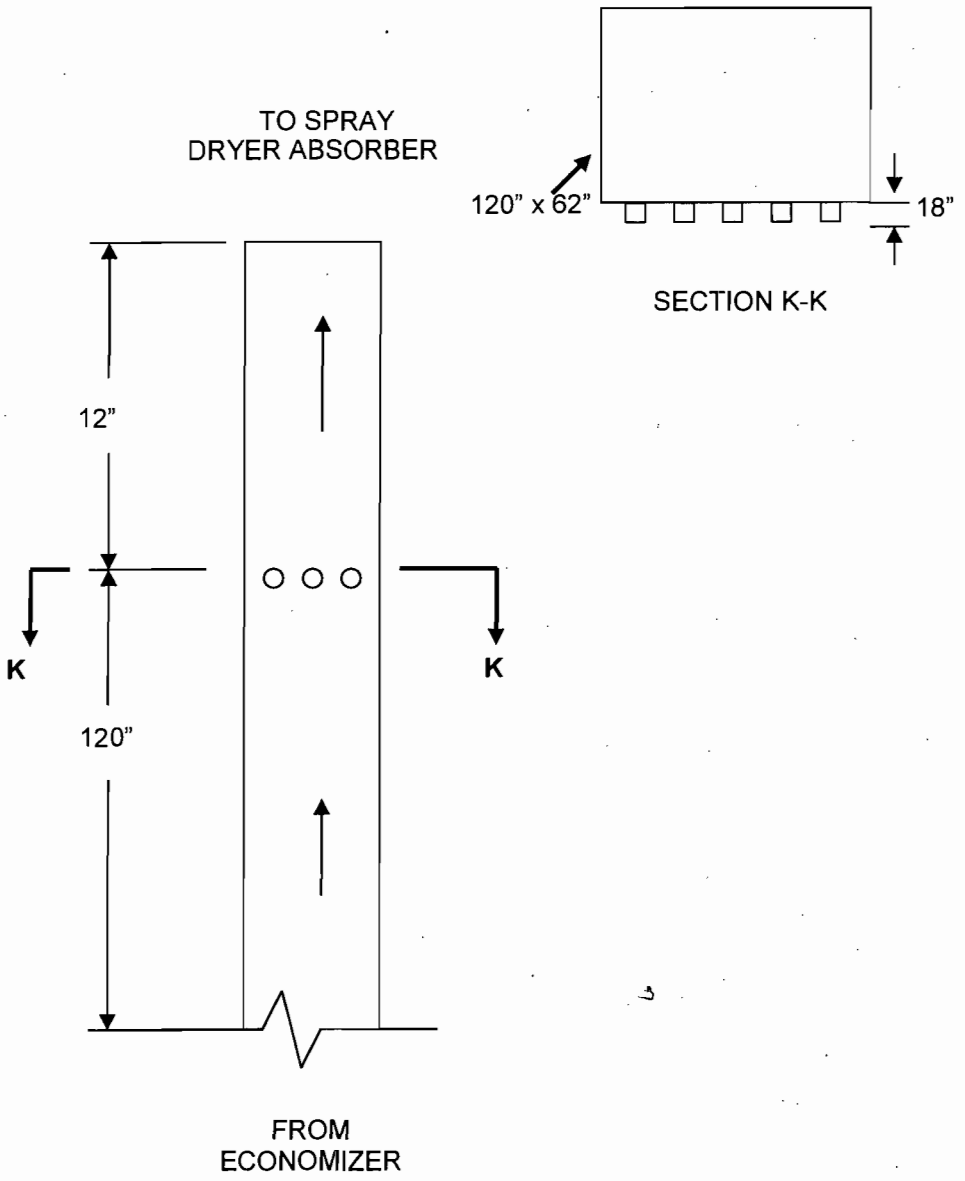
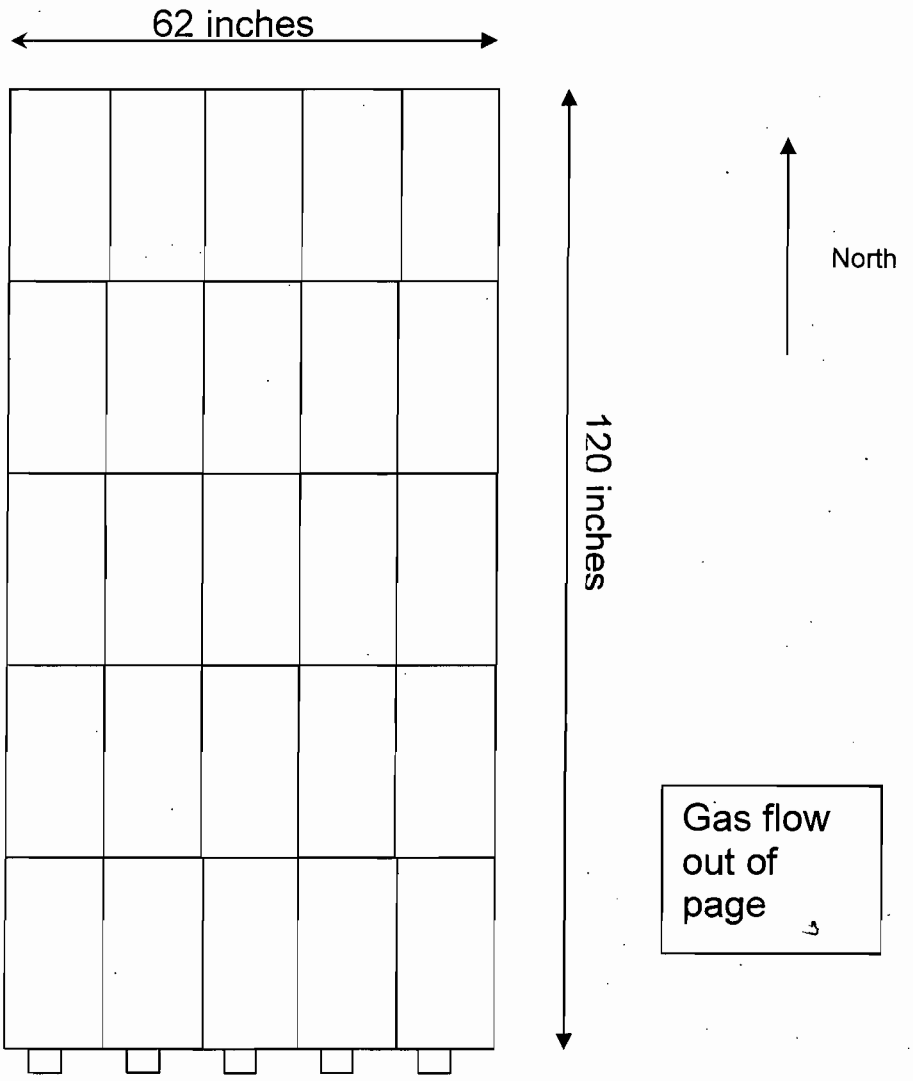


Figure 5-1. SDA Inlet Sampling Location
(Units 1 and 2 are identical)

Sampling Point Determination



Sampling Point	Port to Point Distance (inches)
1	108.0
2	84.0
3	60.0
4	36.0
5	12.0

Figure 5-2. SDA Inlet Sampling Location
(Units 1 and 2 are identical)

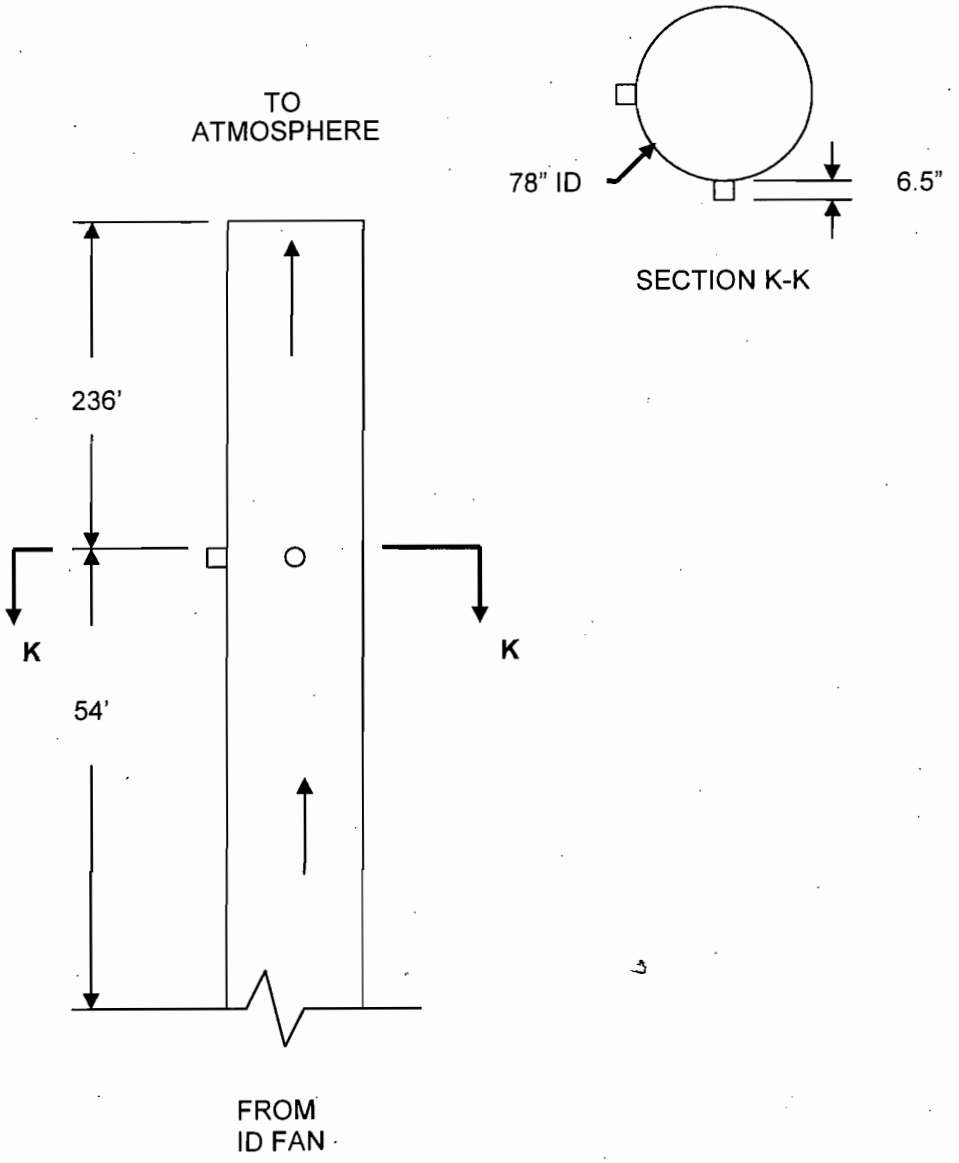
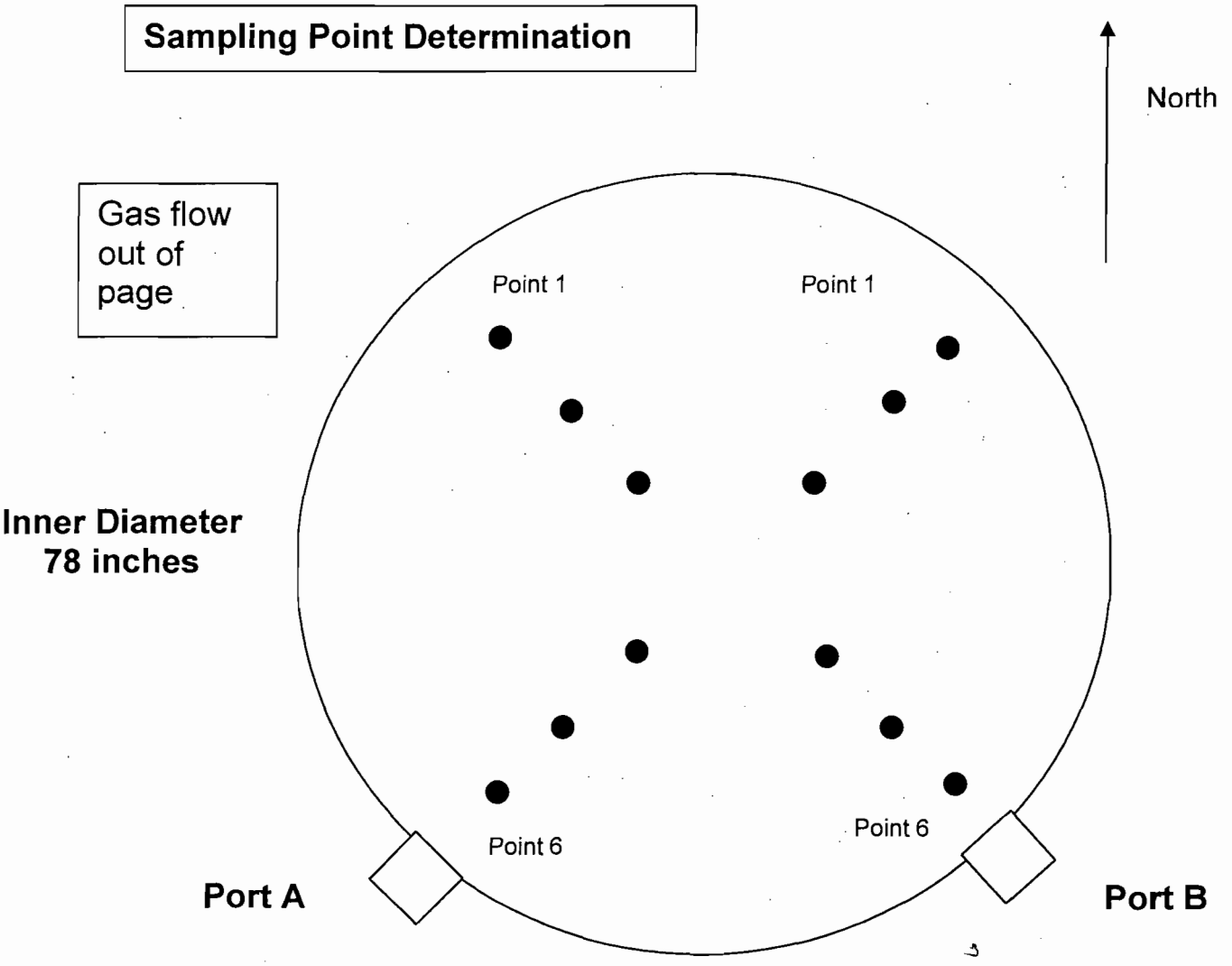


Figure 5-3. Stack Sampling Location
(Units 1 and 2 are identical)



Sampling Point	Port to Point Distance (inches)
1	74.6
2	66.6
3	54.9
4	23.1
5	11.4
6	3.4

Figure 5-4. Stack Sampling Location (Units 1 and 2 are identical)

6.0 TEST METHODS DESCRIPTIONS

6.1 Sampling and Analytical Methods

This section briefly describes the sampling and analytical procedures that were used and any deviations from the methods.

EPA Methods 1-4. EPA Methods 1 through 4 are utilized in conjunction with each isokinetic test method. EPA Method 1 is used to determine the location of the sampling points. EPA Method 2 is used to measure the flue gas flow rate. EPA Method 3 is used to determine the flue gas molecular weight. EPA Method 4 is used to determine the flue gas moisture content. The information provided by these methods is used in determining isokinetics, parameter concentrations, and parameter emission rates.

EPA Method 5. Particulate concentrations and emission rates are determined utilizing EPA Method 5. The EPA Method 5 sampling train consists of a glass nozzle, a heated glass probe, a heated, tared quartz filter, two chilled impingers each with 100 mL of DI water, an empty impinger, an impinger with 200 grams of silica gel, and a dry gas metering console. The equipment will be operated in accordance with EPA Method 5 with no exceptions.

At the end of each test run, the nozzle, probe, and filter fronthalf will be rinsed with acetone into a sample jar. The filter is recovered dry into a sample jar. The contents of the first three impingers are poured back into the original reagent jar. The moisture catch is then determined gravimetrically. The moisture catch in the silica gel is determined gravimetrically.

The sample is analyzed in accordance with EPA Method 5.

EPA Method 9. Opacity (visible emissions) readings are taken every 15 seconds by a certified visual emissions reader for the specified length of time during each EPA Method 5 test run.

EPA Method 22. The accumulated emissions time of fugitive emissions is determined by observing the process area(s) during normal operations for a pre-determined observation period (three one-hour). This method does not require that the opacity of emissions be determined, but rather the length of time that any fugitive emissions are visible. Fugitive emissions include emissions that escape capture by exhaust hoods, that are emitted during material transfer, that are emitted from building housing material processing or handling equipment, or that are emitted directly from process equipment. If any fugitive emissions are observed during the observation period, the length of time that the emissions are visible is quantified using a stopwatch. This total accumulated time of fugitive emissions is then used to determine compliance with the permit and Subpart Cb.

EPA Method 23. The concentrations and emissions rates of polychlorinated dibenzo-p-dioxins/polychlorinated dibenzofurans (PCDD/PCDF) or dioxins/furans) are determined utilizing EPA 23. The EPA Method 23 sampling train consists of a glass nozzle, a heated glass probe, a heated glassmat filter, a condenser, and XAD resin trap, an empty impinger, two chilled impingers each with 100mL of DI water, an empty impinger, an impinger with 200 grams of silica gel, and a dry gas metering console. The equipment is operated in accordance with EPA Method 23 with no exceptions.

At the end of each test run, the nozzle, probe and filter fronthalf are rinsed with acetone and methylene chloride into a sample jar. The filter is recovered dry into a glass petri dish. The filter backhalf, and condenser are rinsed with acetone and methylene chloride into a sample jar. All of the components listed above up to the XAD resin trap are rinsed again with toluene into a sample jar. The XAD resin trap is sealed and placed into a chilled ice chest. The contents of the first three impingers are poured back into the original reagent jar. The silica gel is poured back into its original container. The moisture catch is then determined gravimetrically.

The samples are analyzed in accordance with EPA Method 23 for dioxins/furans.

EPA (Modified) Method 26. Hydrogen chloride concentrations and emission rates are determined utilizing EPA Method 26 modified to use large impingers. The EPA Method 26 sampling train consists of a heated glass probe, a heated quartz filter, two chilled impingers each with 100mL of 0.1N H_2SO_4, two chilled impingers each with 100mL of DI water, an impinger with 200 grams of silica gel, and a dry gas metering console. The equipment is operated in accordance with EPA Method 26 except that large impingers are used for sample collection.

At the end o f each test run, the contents of the H_2SO_4 impingers are poured back into the original H_2SO_4 reagent jar. The contents of the DI impingers are poured back into the original DI reagent jar. The silica gel is returned to its original container. The moisture catch in the components is determined gravimetrically. The filter backhalf and H_2SO_4 impingers are rinsed with DI water into the H_2SO_4 reagent jar.

The H_2SO_4 portion of the sample is analyzed in accordance with EPA Method 26 for hydrogen chloride and hydrogen bromide.

EPA Method 29. Mercury and metals concentrations and emission rates are determined utilizing EPA Method 29. The EPA Method 29 sampling train consists of a glass nozzle, a heated glass probe, a heated quartz filter, two chilled impingers each with 100mL of 5% HNO_3/10% H_2O_2, an empty impinger, two chilled impingers each with 100mL of 4% $KMnO_4$/10% H_2SO_4, an impinger with 200 grams of silica gel, and a dry gas metering console. The equipment is operated in accordance with EPA Method 29 with no exceptions.

At the end of each test run, the nozzle, probe, and filter fronthalf are rinsed with 100 mL of 0.1N nitric acid into a sample jar. The filter is recovered dry into another sample jar. The contents of the 5% HNO_3/10% H_2O_2 impinger are poured back into the original reagent jar. Any condensate in the empty impinger is poured into a sample jar. The 4% $KMnO_4$/10% H_2SO_4 impingers are recovered into another sample jar.

The moisture catch is then determined gravimetrically. The filter backhalf and 5% HNO_3/10% H_2O_2 impingers are rinsed with 100 mL of 0.1N nitric acid into the reagent jar. The empty impinger is rinsed with 100 mL of 0.1N nitric acid into a sample jar. The 4% $KMnO_4$/10% H_2SO_4 impingers are rinsed with 100 mL 4% $KMnO_4$/10% H_2SO_4 and 100 mL of DI water into the jar containing the 4% $KMnO_4$/10% H_2SO_4 reagent. The 4% $KMnO_4$/10% H_2SO_4 impingers and connecting glassware are rinsed with 25mL of 8N HCl if any brown residue remained. This HCl rinse is added to a jar containing 200 mL of DI water.

The samples are analyzed in accordance with EPA Method 29.

EPA Methods 3A, 6C, 7E and 10. Oxygen, carbon dioxide, sulfur dioxide, nitrogen oxides, and carbon monoxide concentrations are determined utilizing the facility's continuous emissions monitoring (CEM) system as per EPA Methods 3A, 6C, 7E and 10.

7.0 QUALITY ASSURANCE / QUALITY CONTROL

7.0 QUALITY ASSURANCE / QUALITY CONTROL

Covanta Projects, Inc. (COV) has instituted a rigorous Quality Assurance/Quality Control (QA/QC) program for all of its pollution testing. This program ensures that the emission data reported for COV facilities are as accurate and meaningful as possible.

Glass or Teflon is employed in all of the sampling equipment in contact with the sample gas. This includes the nozzle, probe liner, filter housing, sample line and impingers. Calibration of all gas meters, thermocouples, and pitot tubes used in the test program will be performed using reference methods with calibration sheets included in the final report.

Transportation blanks, method blanks, inert sample container, field data and chain of custody forms from the U.S. EPA QA Handbook for Air Pollution Measurement Systems, Volume III, Stationary Source Specific Methods, EPA-600/4-77-027b, are used during all phases of the test program and will be included in the final test report.

All test programs include a supervising engineer from COV's Fairfield, New Jersey, office to ensure the integrity of the test program according to the Source Test Plan. All field datasheets for each test run listed in the source test plan including any aborted test runs will either be given to the Agency official witnessing the test or made available to the Agency by the end of the next subsequent day of testing upon request. Laboratory analysis will be available to Covanta 30 calendar days following the completion of testing.

8.0 OPERATIONAL PARAMETERS

8.1 OPERATIONAL PARAMETERS

During the air pollutant emissions testing, Covanta personnel to ensure representative operation of the facility will monitor plant process data.

Unit #1 and Unit #2 - Specific Parameters

Steam Flow

Steam Pressure

Steam Temperature

Econ O_2

Econ CO

Econ SO_2

Stack NO_x

Stack O_2

Stack SO_2

Stack CO

Stack Opacity

Baghouse Inlet Temp

Ammonia Injection Rate

Slaked Lime

Activated Carbon Injection Rate

8.2 PROCESS LIMIT DETERMINATION

During the air pollutant emissions testing, plant process data will be monitored and collected by COV personnel to ensure representative operation of the facility. Steam flow rate will be documented to ensure representative heat input at design conditions.

Operating Practices Determination

The following operating parameters will be determined during the performance test for dioxin/furan emissions and mercury emissions.

Steam Load Level
Maximum 4-hour arithmetic average unit load during dioxin/furan four consecutive hour test runs. (Limit - 110 percent of the maximum steam load.)

Particulate Matter Control Device Inlet
Maximum 4-hour arithmetic average flue gas temperature measured at the particulate matter control device inlet during dioxin/furan test. (Limit- 17°C above the maximum particulate matter control device temperature.)

Carbon Mass Feed Rate
Average carbon mass feed rate in kg/hr or lbs/hr during the performance test for mercury emissions.

9.0 SOURCE TEST RESULTS

9.0 SOURCE TEST RESULTS

Source test results will be submitted to the Florida Department of Environmental Protection, South District Office within 45 days of testing. Preliminary laboratory data will be available to Covanta 30 calendar days following the compliance test.

Pollutants to be tested shall be reported as:

Particulate Matter :	gr/dscf @ 7% O_2, lb/hr, ton/yr, mg/dscm @ 7% O_2
Particulate Matter: (<10 Microns)	gr/dscf @ 7% O_2, lb/hr, ton/yr, mg/dscm @ 7% O_2
Opacity :	%
SO_2 :	ppm @ 7% O_2, lb/hr, ton/yr, lb/mmbtu, % removal
NOx :	ppm @ 7% O_2, lb/hr, ton/yr, lb/mmbtu
CO :	ppm @ 7% O_2, lb/hr, ton/yr, lb/mmbtu
HCl :	ppm @ 7% O_2, lb/hr, ton/yr, lb/mmbtu, % removal
PCDD/PCDF :	ng/dscm @ 7% O_2, lb/hr, ton/yr, lb/mmbtu
FE :	min
Hg :	ug/dscm @ 7% O_2, lb/hr, ton/yr, % removal, mg/dscm @ 7% O_2, lb/mmbtu
MMTLs :	mg/dscm @ 7% O_2, lb/hr, ton/yr (Cd, Hg, Pb), lb/mmbtu
Lime Silo:	%, establish truck filling rate at time of visible emissions test

Reference: TITLE V PERMIT NO. 0710119-003-AV