PASCO COUNTY, FLORIDA

"Bringing Opportunities Home"

DADE CITY (352) 523-2411
LAND O' LAKES (813) 235-6012
SPRING HILL (727) 856-0119
FAX (727) 861-3099

PASCO COUNTY SOLID WASTE
RESOURCE RECOVERY FACILITY
14230 HAYS ROAD
SPRING HILL, FL 34610

August 7, 2013

Mr. Scott M. Sheplak, PE
Bureau of Air Regulation
Florida Department of Environmental Protection
2600 Blair Stone Road
Tallahassee, Florida 32399-2400

Subject: RAI #1, Project Numbers 1010056-009-AC & 1010056-010-AV
Biosolids Combustion at the Pasco County Resource Recovery Facility

Dear Mr. Sheplak:

Pasco County submits the following responses to the Department's Request for Additional Information.

1. Air Permit Processing. We concur that it is simpler to proceed with the simultaneous PSD/AC permit revision and the AC permit. We agree to the withdrawal of the request to revise the Title V air operation permit.

2. Sludge Analyses - Pasco County Shady Hills. The approximate heat content value and the moisture content of the biosolids is 850 Btu/lb and 18%, respectively. Due to the small biosolids to MSW ratio, a 30% deviation from these figures would not have much effect on the combustion. The biosolids from the Pasco County Shady Hills wastewater treatment plant is classified as Class B.

3. Mercury Emission Limitations.

Mercury emission limit comparision

Subpart Cb	%O2 Reg. =	7
PSD/AC permit	Flow Rate =	47600 dscf/min
	EU limit =	50 ugr/dscm
	EU Emission =	0.0089 lb/hr

Subpart E	Facility limit lb/day=	7.10
	Facility Emission =	0.2958 lb/hr
	EU Emission =	0.0986 lb/hr

The Hg emission standard/limit from the PSD/AC permit and the 40 CFR 60, Subpart Cb are the same (i.e. 50 ugr/dscm). Based on each emission unit design stack gas flow rate of 47600 dscfm, the calculated mass emission is 0.0089 lb/hr.

The NESHAP 40 CFR 61, Subpart E, emission limitation of 3.2 kg (7.1 lb) of Hg per 24-hour period was calculated to be 0.0986 lb/hr for each emission unit.

Therefore, the Hg emission standard/limit from the PSD/AC permit and the 40 CFR 60, Subpart Cb is most restrictive.

4. Prevention of Significant Deterioration (PSD)/New Source Review (NSR) Applicability Review.

Based on each emission unit design stack gas flow rate of 47600 dscfm, the theoretical concentration of Hg, Cd & Pb in units of mg/dscm calculated to the equivalent "lbs/hour," "lbs/year," & " (tons/year)" values for the project are shown below. Also shown are total emissions from 3 emission units for comparison with the PSD SER. The data demonstrate the project emissions are well below the PSD SERs.

Design Flow Rate dscfm 47600

	Theoretical conc. mg/dscm	Each EU lb/hr	Each EU lb/yr	3 EU lb/yr	3 EU TPY	PSD SER
Hg	0.005619	0.001001811	8.775864458	26.33	0.013164	200 lbs
Cd	0.000398	0.000070884	0.620940727	1.86	0.000931	NA
Pb	0.005295	0.000943997	8.269416765	24.81	0.012404	1200 lbs
				Total metals	0.0265	15 tons

5. Air Pollution Control Devices and/or Measures. Hg emissions from each EU will be controlled by the existing activated carbon injection system and baghouse. Pb and Cd emissions from each EU will be controlled by the existing baghouse.

6. Effects on the Existing Air Pollution Control Devices and/or Measures. Based on the requested throughput rate, we do not anticipate any effects on the existing air pollution control devices and/or measures from the burning of biosolids in the MWCs at the Pasco County RRF.

7. Pathogen and Vectors. The facility addresses pathogen and vector concerns from the handling & storage and the combustion of biosolids in the MWCs as outlined in the attached Plan for Handling Biosolids.

If you have any questions, please contact Viet Ta, Facility Environmental Engineer, at (727) 919-7671.

Very truly yours,

John Power
Solid Waste Director

JP/gn/fdep/biosolids

cc: Jason Gorrie, Covanta Energy Corp., 350 N. Falkenburg Rd., Tampa, FL 33609
Viet Ta, Covanta Pasco, Inc., 14230 Hays Road, Spring Hill, FL 34610
File

COVANTA PASCO, INC

Training Plan for the Handling, Storage, and Combustion of Biosolids

Purpose

This training plan is established for the purpose of providing appropriate employees of Covanta Pasco, Inc., information related to the handling, storage, and combustion of biosolids at the Pasco County waste to energy facility (WTE). The combustion of the biosolids will take place as a mixture along with other municipal solid waste (MSW). The PCRRF is authorized to combust biosolids in the amount of up to 5% of the municipal solid waste combusted in Unit Nos. 1, 2 and 3 with loading rates on an as received (i.e., wet) basis not to exceed 50 TPD facility-wide, averaged monthly. It is intended that the information provided by this training plan establishes the best management practices for the activities mentioned above.

It is expected that employees will not be in direct contact with biosolids. However, on occasion it may be necessary to perform some clean-up activities such as sweeping or wiping off the grapple for maintenance. General rules and procedures for using personal protective equipment and practicing good hygiene should be followed and such practices are included in Attachment 2 of this training plan.

Definition of Biosolids

"**Biosolids**" means the solid, semisolid, or liquid residue generated during the treatment of domestic wastewater in a domestic wastewater treatment facility, formerly known as "domestic wastewater residuals" or "residuals." Also not included are solids removed from pump stations and lift stations, screenings and grit removed from the preliminary treatment components of domestic wastewater treatment facilities, other solids as defined in subsection 62-640.200(31), F.A.C. Biosolids include products and treated material from biosolids treatment facilities and septage management facilities regulated by the Department. (Defined by Rule 62-640.200(6), F.A.C.)

Note: The WTE facility is permitted to combust "Biosolids", not "Liquid Biosolids". The difference is the amount of moisture content. Liquid biosolids means means any biosolids that are less than 12% solids by weight, or that are determined to contain free liquids as defined by Method 9095B (Paint Filter Liquids Test). Generally, the biosolids brought to the WTE facility should have no 'free-flowing' liquid. If the biosolids has free-flowing liquid, a County or Covanta supervisor must be notified.

Weigh-In and Unloading

Each truckload of biosolids will weigh in at the facility scale house. The scale house will establish and record the net weight and the source of the biosolids. Generally, all biosolids will be delivered to the WTE by Solid Waste Division trucks.

Each truck will proceed to the WTE tipping floor and position itself near an unloading bay but at a safe distance from the storage pit as directed by the tipping floor loader operator. The driver will prepare the truck for unloading, that is, retract cover tarp as necessary, release manual safety

latches, etc. The driver will then back the truck up to the storage pit curb so that all the biosolids will be dumped directly into the storage pit. It is understood that the driver may have to move the truck to 'jar' any 'sticking' biosolids from the trailer. If such is the case, this activity should take place within 20 feet from the edge of the pit. Additionally, if the driver needs to sweep out any remaining biosolids from the floor of the trailer, this should be performed where the 'sticking' biosolids was discharged.

Clean-Up of Tipping Floor (if required)

The tipping floor loader operator will inspect the area where the biosolids was unloaded. If there is any residual biosolid material on the tipping floor, the loader operator will push other MSW across the residuals to the waste storage pit using the loader bucket. This action will ensure that any biosolids residuals are removed from the tipping floor and placed into the pit.

Handling, Mixing, and Charging Biosolids

After the biosolids has been deposited into the waste storage pit, the crane operator will cover the biosolids with a layer of yard waste or other MSW. The crane operator will use the crane grapple to mix with the top layer of MSW with the biosolids. The crane operator will then spread the biosolids-MSW mixture over the top of MSW in the back-stack area of the waste storage bunker. Other MSW may be spread over the top of this mixture. All mixing will take place in the waste storage bunker. Biosolids will not be placed alone on the tipping floor, or alone, in a waste storage bunker. (Reference Attachment 1)

Only well-mixed (combined) materials will be fed directly into the combustor feed hopper.

Forced Shutdown due to malfunctions during combustion of MSW/Biosolids

Reference section 4.3.6 of Pasco County Resource Recovery Facility Environmental Compliance Operating Manual.

Attachment 1

Covanta – Pasco Procedure for Processing Biosolids

1) Scale house will notify the control room that a biosolids delivery is on site at the Scale house. Control Room will then notify the Crane and Tipping Floor Operators of the delivery.
2) All trucks entering the facility should be free from leakage. Any leakage observed on arrival or departure will be communicated to the Chief Engineer or Shift Supervisor.
3) The Crane Operators and the Tipping Floor Operators will then prepare to receive biosolids in the predetermined/designated bay.
4) After the biosolids has been deposited into the waste storage pit, the crane operator will cover the biosolids with a layer of yard waste or other MSW. The crane operator will use the crane grapple to mix with the top layer of MSW with the biosolids. The crane operator may then spread the biosolids-MSW mixture over the top of MSW in the back-stack area of the waste storage bunker. Other MSW may be spread over the top of this mixture. All mixing will take place in the waste storage bunker. Biosolids will not be placed alone on the tipping floor, or alone, in a waste storage bunker.
5) Deliveries will be dumped directly into the refuse pit and mixed with MSW or Yard waste in a ratio that will not affect combustion.
6) Biosolids will not be feed into any boiler/unit **8 hours** prior to scheduled shutdown, or
7) Biosolids will not be fed into any boiler/unit where a grate bar problem is known to exist or a pressure part leak is known to exist.
8) Biosolids will not be feed into a boiler until it has been on line for at least **8 hours**.
9) Drivers will attempt to dump as much Biosolids into the pit as possible. Floor and curb areas of the dump site will be cleared and cleaned with MSW using the four wheeled front end loader and deposited into the waste bunker/pit as soon as the truck has finished dumping.
10) Anyone working with and around biosolids should exercise proper hygiene by washing thoroughly with soap and water and avoid touching face, mouth, eyes, nose, genitalia, or open sores and cuts.
11) Tipping floor attendant should wear a dust mask and gloves if shoveling or sweeping in the area where biosolids have been dumped and wash hands afterward

Attachment 2

Appropriate Personal Protective Equipment (PPE) must be used by all workers likely to have direct exposure to biosolids. The choices of PPE include goggles, splash-proof face shields, respirators, liquid-repellent coveralls, and gloves, depending on the exposure degree.

Basic hygiene precautions are important for workers handling biosolids. The following list, originally developed by EPA, provides a good set of hygiene recommendations.

1. Wash hands thoroughly with soap and water after contact with biosolids.
2. Avoid touching face, mouth, eyes, nose, genitalia, or open sores and cuts while working with biosolids.
3. Wash your hands before you eat, drink, or smoke and before and after using the bathroom.
4. Eat in designated areas away from biosolids-handling activities.
5. Do not smoke or chew tobacco or gum while working with biosolids.
6. Use barriers between skin and surfaces exposed to biosolids.
7. Remove excess biosolids from footgear prior to entering a vehicle or a building.
8. Keep wounds covered with clean, dry bandages.
9. Thoroughly but gently flush eyes with water if biosolids contact eyes.
10. Change into clean work clothing on a daily basis and reserve footgear for use at worksite or during biosolids transport.
11. Do not wear work clothes home or outside the work environment.
12. Use gloves to prevent skin abrasion.

Grapple Preparations for Maintenance

1. When necessary to conduct maintenance on grapples, a bleach solution of 10:1 should be applied to the grapple via garden sprayer or other device that provides 100% contact with grapple surfaces for disinfection. Once the bleach solutions has been applied to all grapple surfaces in contact with MSW/biosolids the grapple will be rinsed thoroughly with fresh water to remove contaminants and prevent corrosion.
2. Once the decontamination process has been completed (step 1) grapple maintenance may commence wearing proper PPE.