



**LEE COUNTY**  
SOUTHWEST FLORIDA

BOARD OF COUNTY COMMISSIONERS

November 11, 2011

John E. Manning  
District One

Brian Bigelow Mr. Scott M. Sheplak, P.E.  
District Two DEP – Office of Permitting and Compliance

Ray Judah Mail Station #5505  
District Three 2600 Blair Stone Road

Tammy Hall Tallahassee, Florida 32399  
District Four

Frank Mann **RE: Lee County Resource Recovery Facility (RRF)**  
District Five **File Numbers: 710119-007-AV, Title V Air Operating Permit Renewal**

Karen B. Hawes **Application**  
County Manager **0710119-008-AC/PSD-FL-151-E, Air Construction Permit**

Diana M. Parker **Revision**  
County Hearing Examiner **0710119-009-AC, Air Construction Permit, Biosolids Request**

**Additional Information Requested by FDEP Letter Dated August 15, 2011 – Item**

**B**

Dear Mr. Sheplak:

On August 15, 2011, the Florida Department of Environmental Protection (FDEP) issued a letter to the Lee County RRF (Facility) stating that review of the Facility's request to modify several previously issued PSD permits (PSD-FL-151-B&D), submitted on July 22, 2011, had begun. The letter stated that FDEP needs additional information in order to continue processing the application. The purpose of this letter is to submit the additional information requested by the FDEP.

In Item B of the Additional Information Request, DEP indicated that the request to burn biosolids was not in the Title V air operating permit renewal application received by the Department and so will be processed separately under File Number 0710119-009-AC. As such, the information requested under Item A of the Additional Information Request was provided under separate cover.

**B. Request to Burn "Biosolids" in the MWCs Project, File Number 0710119-009-AC, Air Construction Permit**

1. *Applicants for Title V air operation permits are required to identify applicable requirements ...*

*Because the burning of "biosolids" in the MWCs was not specifically addressed in the Title V air operation permit renewal application submitted, please identify the specific applicable requirements to which the burning of "biosolids" in the MWCs are subject to.*

*As part of the response, specifically address the applicability of the following federal air regulations to the burning of "biosolids" in the MWCs:*

- a. *40 Code of Federal Regulations (CFR) 60, Subpart Cb, Emissions Guidelines (EG) and Compliance Times for Large Municipal Waste Combustors;*

**Answer:** The combustion of biosolids in the Lee County MWCs does not affect the applicability of 40 CFR Part 60, Subpart Cb. Therefore, Units 1 and 2 will continue to be subject to Subpart Cb, while Unit 3 will continue to be subject to Subpart Eb.

- b. *40 CFR 60, Subpart Eb, New Stationary Source Performance Standards (NSPS) for Large Municipal Waste Combustors;*

**Answer:** The combustion of biosolids in the Lee County MWCs does not affect the applicability of 40 CFR Part 60, Subpart Eb. No physical modification to any of the MWC (as defined in 40 CFR §60.51a) units will be required in connection with the combustion of biosolids. Therefore, Unit 3 will continue to be subject to Subpart Eb, while Units 1 and 2 will continue to be subject to Subpart Cb.

- c. *40 CFR 60, Subpart M MMM, EG for Sewage Sludge Incineration Units;*

**Answer:** 40 CFR Part 60, Subpart M MMM applies to sewage sludge incinerator units that commenced construction on or before October 14, 2010. Therefore, it potentially applies to Lee County's MWC Units 1, 2, and 3. 40 CFR §60.5065 states the following:

"This subpart exempts combustion units that incinerate sewage sludge and are not located at a wastewater treatment facility designed to treat domestic sewage sludge. These units may be subject to another subpart of this part (e.g., subpart CCCC of this part). The owner or operator of such a combustion unit must notify the Administrator of an exemption claim under this section."

The Lee County facility is not located at a wastewater treatment facility designed to treat domestic sewage sludge. Therefore, Subpart M MMM does not apply, although a notification of the use of this exemption will need to be submitted. At this time FDEP has not adopted Subpart M MMM. Therefore, the notification of exemption will be sent to both FDEP and EPA. Also please note that the references subpart CCCC does not apply to the Lee County MWCs. Per §60.2020(c)(1), MWCs subject to subpart Cb or Eb are exempt from subpart CCCC. No notification of this exemption is required.

- d. *40 CFR 60, Subpart L L L L, NSPS for Sewage Sludge Incineration Units; and;*

**Answer:** 40 CFR Part 60, Subpart L L L L applies to sewage sludge incinerator units that commenced construction after October 14, 2010 or for which modification commenced after September 21, 2011. Commencement of construction of each the Lee County MWC units commenced prior to October 14, 2010. As discussed previously, no modification to the units is required in order to burn biosolids. Therefore, Subpart L L L L is not applicable to any of the Lee County MWC units.

- e. *40 CFR 61, Subpart E, National Emission Standards for Hazardous Air Pollutants (NESHAP) for Mercury.*

**Answer:** 40 CFR Part 61, Subpart E "... are applicable to those stationary sources which ... incinerate or dry wastewater treatment plant sludge." Numerous EPA policy memos issued since promulgation of the rule make it clear that Subpart E applies to any source that incinerates or dries wastewater treatment plant sludge. Therefore, Subpart E will be applicable to the Lee County MWC units after they begin to burn the "biosolids".

Under Subpart E the facility (i.e., the total from all three MWC units when burning biosolids) mercury emissions will be limited to not exceed 3.2 kg (7.1 lb) in any 24-hour period. The facility's current Title V permit contains mercury limits emissions that are the equivalent of 0.77 kg/day. Review of historic stack test data included as Attachment A indicates that the maximum uncontrolled mercury emissions at the facility are equivalent to 0.90 kg/day. Therefore, current facility operations and permitted emission limits will ensure compliance with the Subpart E limit.

§61.55(a) states that sources for which mercury emissions exceed 1.6 kg/24-hour period must monitor mercury emissions at least once per year and report and retain the results. Based on Lee County's mercury emissions, this requirement will not apply.

Subpart E requires one of three compliance demonstration methods for initial testing:

- Obtain a waiver of emission testing under §61.13,
- Perform stack sampling using Method 101A in Appendix B to Part 61, or
- Perform sludge sampling according to §61.54.

Finally, notifications of the anticipated date of startup and actual date of startup are required by §61.09.

Section 62-204.800(10)(b)3. F.A.C. indicates that FDEP incorporated Subpart E by reference and that the term "Administrator" is delegated to the Secretary or the Secretary's designee. And 62-204.800(10)(d) F.A.C. indicates that FDEP is the Administrator for purposes of §61.07 (Application of approval of construction or modification), §61.09 (Notification of startup), and §61.13 (Emission tests and waiver of emission tests).

#### *Other potentially applicable requirements discussion*

In addition to the potentially applicable requirements discussed in items a through e above, the following potentially applicable requirements are included for the sake of completeness:

- 40 CFR Part 60, Subpart O – Standards of Performance for Sewage Treatment Plants. §60.150 states that "The affected facility is each incinerator that combusts wastes containing more than 10 percent sewage sludge (dry basis) produced by municipal sewage treatment plants, or that charges more than 1000 kg (2205 lb) per day municipal sewage sludge (dry basis)."

As detailed in our July 21, 2011 letter, Lee County shall not exceed 5% (dry basis) by weight of the facility's total fuel. Therefore, each incinerator will

combust wastes containing less than 10% sewage sludge (dry basis). Further, the Lee County MWCs are not capable of charging only sewage sludge and so cannot charge more than 1000 kg (2205 lb) per day of municipal sewage sludge (dry basis) alone. Neither applicability threshold is triggered and Lee County will not be subject to Subpart O.

- 40 CFR Part 503 – Standards for the Use or Disposal of Sewage Sludge. §503.6(c) states that “This part does not establish requirements for sewage sludge co-fired in an incinerator with other wastes or for the incinerator in which sewage sludge and other wastes are co-fired.” The Lee County MWC’s are not capable of charging only biosolids. Therefore, Lee County will not be subject to Part 503.

2. *The request did not provide any details on the effect on air pollutant emissions from the burning of “biosolids” in the MWCs. Please provide the following additional information on the effects on air pollutant emissions from the burning of “biosolids” in the MWCs:*

- a. *Are there any new or increases in air pollutants emitted? If so, in what quantity in “pounds/hour” and “tons per year (TPY)”? Include all supporting calculations and references.*

**Answer:** No new pollutants or increases in air pollutant emission rates are expected. Review of the attached sludge sampling results indicates that the sludge does not contain any pollutant not already contained in MSW.

- b. *From the burning of “biosolids” in the MWCs, which air pollutants will be controlled by the existing air pollution control devices and/or measures?*

**Answer:** As stated previously, burning biosolids will not result in the emission of any pollutant not already generated by the MWCs and controlled by the pollution control equipment. As a result, the metals in the biosolids and the particulate matter and other products of combustion generated by combustion of the biosolids will be controlled by the existing pollution control devices and measures.

- c. *Do you anticipate any effects on the existing air pollution control devices and/or measures from the burning “biosolids” in the MWCs?*

**Answer:** No effects on the existing air pollution control devices, adverse or beneficial, are expected as a result of burning biosolids.

3. *The July 22, 2011 cover letter to the request indicated that there have been no “adverse impacts” from WTE facilities burning “biosolids” in other sections of the county [U.S.] and in Europe. Please provide literature and/or reference documents to support this claim.*

**Answer:** No documents were found that specifically state that there have been no adverse impacts from WTE facilities burning sludge. Two facilities in the U.S. (Lancaster, Pennsylvania and Huntsville, Alabama) routinely co-fire MSW and sewage sludge in their large unit MWCs. Review of inspection reports and general Internet searches did not result in any environmental compliance issues associated with their burning of sludge. It should

be noted that the Lancaster and Huntsville facilities use similar Martin Grate technology for combustion, and have similar (SDA/FF/Activated Carbon Injection) systems in place as those in the Lee facility. The operation of the advance pollution control equipment on Lee County's MWCs will minimize any potential impacts that may result from the combustion of the biosolids.

On November 8, 2011, Lee County and HDR contacted Lancaster County Solid Waste Management Authority (LCSWMA) personnel to discuss their experience with co-firing sewage sludge with MSW in their MWCs. The outcome of the conversation was that the facility has seen no noticeable impact, either on air emissions or operations, of co-firing sewage sludge with MSW. A summary of the conversation is included as Attachment B.

On November 9, 2011, Lee County and HDR contacted City of Huntsville Solid Waste Disposal Authority and Covanta Huntsville personnel to discuss their experience with co-firing sewage sludge with MSW in their MWCs. Similar to the conversation with LCSWMA, the outcome of the conversation was that the facility has seen no noticeable impact, either on air emissions or operations, of routinely co-firing sewage sludge with MSW. A summary of the conversation is included as Attachment C.

4. *Have any trial [sic] burns of "biosolids" been conducted on MWCs in the U.S.? Have any reports been prepared on the effects of air pollutant emissions from the burning of "biosolids" in MWCs? If so, please provide.*

**Answer:** To our knowledge, no trial burns of co-firing sludge with MSW in MWCs have been conducted in the U.S. As discussed in Item 3. above, the actual experience of LCSWMA and the City of Huntsville has been that co-firing sewage sludge with MSW does not impact air emissions.

5. *Where do you plan to bring "biosolids" from and in what quantity in "pounds" and "tons?" Where do the "biosolids" currently go?*

**Answer:** The Lee County Solid Waste Division (the Division) manages and disposes biosolids generated by the County's Utilities Division and the City of Ft. Myers Utilities Division and expects to begin receiving biosolids from the City of Cape Coral Utilities Division. Current practice includes composting the biosolids along with shredded yard waste (mulch) to produce fertilizer. When the composting facility is operating at its permitted operations limit, the Division disposes the biosolids in the County's Class I landfill. Combusting biosolids will supplement the Division's current management practices and will allow the Division to minimize the landfilling of biosolids. This will further the County's efforts in meeting the State's goal of 75% recycling by 2020 because under FS 403.7032(2), the combustion of waste to produce renewable energy qualifies as recycling.

Lee County anticipates that initially, approximately 12,000 to 15,000 wet tons of biosolids will be available for combustion on an annual basis.

6. *Please address pathogen and vector concerns from the handling & storage and the combustion of "biosolids" in the MWCs at the LCRRF.*

**Answer:** The Lee County Resource Recovery Facility is designed to control and reduce pathogens and vectors regardless whether such adverse (waste) characteristics are related to the management of biosolids or municipal solid waste. The biosolids will be unloaded at the facility tipping floor via self-dumping trucks or trailers and deposited into the waste storage bunker. An overhead crane grapple will mix the biosolids with other waste materials then feed the mixed waste into the combustors' feed hoppers. As a note, the crane operator works in a controlled environment room. Employees will have no direct contact with the biosolids so there will be no opportunity for direct pathogen transfer. The enclosed tipping floor and storage pit not only provides vector control but the area is maintained at a negative air pressure in that all combustion air is drawn from this (enclosed) area. This continual change of air (and subsequent combustion of same) provides for the reduction and control of both pathogens and vectors.

7. *Are there any analyses available on the constituents of the "biosolids?" Please provide an analysis for the "biosolids" you wish to burn to include at a minimum; the heat content (Btu/lb), % ash content, % water content, % carbon content, % sulfur content, % metal constituents like mercury, etc.*

**Answer:** Attachment D includes laboratory analysis for the parameters requested. Also included in Attachment D is a compilation of data from the City of Ft. Myers providing information related to the metal content of its biosolids during 2010. Please note that the metals analytical results are reported on an as received basis. Since most commercial and industrial facilities in Lee County are in Ft. Myers, the concentration of metals in biosolids from Cape Coral and unincorporated Lee County is expected to be less than the amounts indicated from Ft. Myers.

8. *How do you plan to bring "biosolids" to the LCRRF? How do you plan to handle and store it at the LCRRF? Will there be any air pollutant emissions from any handling and storage activities?*

**Answer:** The biosolids will be transported to the LCRRF primarily by tractor-trailer vehicles with self-dumping trailers. The Division will use its own transport vehicles and deposit the biosolids into the waste storage pit. The LCRRF crane operator will mix the biosolids with other municipal solid waste (MSW) using the crane's grapple. As discussed above, the biosolids will be handled and stored in the enclosed tipping floor and pit, which is under negative pressure. Therefore, there will not be any air pollutant emissions from handling and storage activities.

9. *How do you plan to introduce "biosolids" into the individual MWCs?*

**Answer:** The biosolids will be mixed with other MSW in the storage pit using the crane grapple and the mixed material will be placed into the waste combustors' feed hoppers in the same manner as MSW.

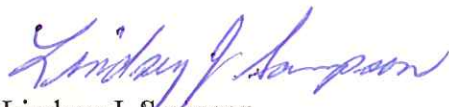
10. *Please provide process flow/operations diagrams for the handling & storage and the combustion of the "biosolids" at the LCRRF.*

**Answer:** Please see Attachment E.

As a final note, the preamble to the final promulgation of 40 CFR Part 60, Subparts Cb and Eb are clear that neither of the rules prohibits the combustion of sewage sludge in a subject MWC (see Attachment F for the Federal Register excerpt, emphasis added).

Attached is a Responsible Official Certification as required by Rule 62-213.420(4) of the Florida Administrative Code for any document submitted to the Department for a Title V facility. In addition, a registered Professional Engineer certification is attached, per Department policy regarding the submittal of additional information of an engineering nature. Should you have any questions, please contact me at (239-533-8000) or Mr. M. Kirk Dunbar of HDR Engineering, Inc. at (763-591-5476).

Sincerely,



Lindsey J. Sampson  
Lee County Solid Waste Division Director

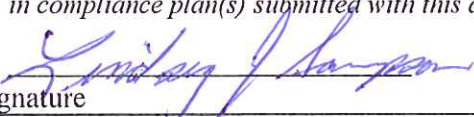
Attachments

cc: D. Castro - HDR Engineering, Inc.  
K. Dunbar - HDR Engineering, Inc.  
M. Halpin, P.E. - DEP-Siting  
A. Satyal - DEP-SD  
J. Gorrie - Covanta Energy Corporation

**APPLICATION INFORMATION**

**Application Responsible Official Certification**

**Complete if applying for an initial, revised, or renewal Title V air operation permit or concurrent processing of an air construction permit and revised or renewal Title V air operation permit. If there are multiple responsible officials, the "application responsible official" need not be the "primary responsible official."**

1. Application Responsible Official Name: LINDSEY SAMPSON
2. Application Responsible Official Qualification (Check one or more of the following options, as applicable): <input type="checkbox"/> For a corporation, the president, secretary, treasurer, or vice-president of the corporation in charge of a principal business function, or any other person who performs similar policy or decision-making functions for the corporation, or a duly authorized representative of such person if the representative is responsible for the overall operation of one or more manufacturing, production, or operating facilities applying for or subject to a permit under Chapter 62-213, F.A.C. <input type="checkbox"/> For a partnership or sole proprietorship, a general partner or the proprietor, respectively. <input checked="" type="checkbox"/> For a municipality, county, state, federal, or other public agency, either a principal executive officer or ranking elected official. <input type="checkbox"/> The designated representative at an Acid Rain source, CAIR source, or Hg Budget source.
3. Application Responsible Official Mailing Address... Organization/Firm: LEE COUNTY Street Address: 10500 BUCKINGHAM ROAD SUITE 200 City: FORT MEYERS State: FL Zip Code: 33905
4. Application Responsible Official Telephone Numbers... Telephone: ( 239 ) 533 - 8000 ext. Fax: ( 239 ) 461 - 5871
5. Application Responsible Official E-mail Address: sampsolj@leegov.com
6. Application Responsible Official Certification: <i>I, the undersigned, am a responsible official of the Title V source addressed in this air permit application. I hereby certify, based on information and belief formed after reasonable inquiry, that the statements made in this application are true, accurate and complete and that, to the best of my knowledge, any estimates of emissions reported in this application are based upon reasonable techniques for calculating emissions. The air pollutant emissions units and air pollution control equipment described in this application will be operated and maintained so as to comply with all applicable standards for control of air pollutant emissions found in the statutes of the State of Florida and rules of the Department of Environmental Protection and revisions thereof and all other applicable requirements identified in this application to which the Title V source is subject. I understand that a permit, if granted by the department, cannot be transferred without authorization from the department, and I will promptly notify the department upon sale or legal transfer of the facility or any permitted emissions unit. Finally, I certify that the facility and each emissions unit are in compliance with all applicable requirements to which they are subject, except as identified in compliance plan(s) submitted with this application.</i>  Signature  Date <u>11/14/11</u>

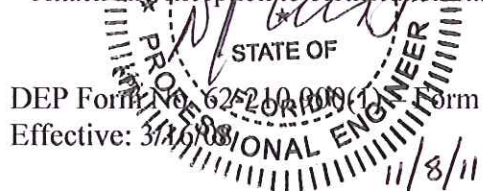


**APPLICATION INFORMATION**

**Professional Engineer Certification**

1. Professional Engineer Name: DONALD CASTRO Registration Number: 44569
2. Professional Engineer Mailing Address... Organization/Firm: HDR ENGINEERING, INC. Street Address: 5426 Bay Center Drive, Suite 400 City: TAMPA State: FL Zip Code: 33609-3444
3. Professional Engineer Telephone Numbers... Telephone: ( 813 ) 282 - 2404 ext. Fax: ( ) -
4. Professional Engineer E-mail Address: DON.CASTRO@HDRINC.COM
5. Professional Engineer Statement: <i>I, the undersigned, hereby certify, except as particularly noted herein*, that:</i> <i>(1) To the best of my knowledge, there is reasonable assurance that the air pollutant emissions unit(s) and the air pollution control equipment described in this application for air permit, when properly operated and maintained, will comply with all applicable standards for control of air pollutant emissions found in the Florida Statutes and rules of the Department of Environmental Protection; and</i> <i>(2) To the best of my knowledge, any emission estimates reported or relied on in this application are true, accurate, and complete and are either based upon reasonable techniques available for calculating emissions or, for emission estimates of hazardous air pollutants not regulated for an emissions unit addressed in this application, based solely upon the materials, information and calculations submitted with this application.</i> <i>(3) If the purpose of this application is to obtain a Title V air operation permit (check here <input type="checkbox"/>, if so), I further certify that each emissions unit described in this application for air permit, when properly operated and maintained, will comply with the applicable requirements identified in this application to which the unit is subject, except those emissions units for which a compliance plan and schedule is submitted with this application.</i> <i>(4) If the purpose of this application is to obtain an air construction permit (check here <input type="checkbox"/>, if so) or concurrently process and obtain an air construction permit and a Title V air operation permit revision or renewal for one or more proposed new or modified emissions units (check here <input checked="" type="checkbox"/>, if so), I further certify that the engineering features of each such emissions unit described in this application have been designed or examined by me or individuals under my direct supervision and found to be in conformity with sound engineering principles applicable to the control of emissions of the air pollutants characterized in this application.</i> <i>(5) If the purpose of this application is to obtain an initial air operation permit or operation permit revision or renewal for one or more newly constructed or modified emissions units (check here <input type="checkbox"/>, if so), I further certify that, with the exception of any changes detailed as part of this application, each such emissions unit has been constructed or modified in substantial accordance with the information given in the corresponding application for air construction permit and with all provisions contained in such permit.</i>  Signature: <u>Donald J. Castro</u> Date: <u>11/8/11</u>

\* Attach any exception to certification statement.



# ATTACHMENT A

Comparison of Historic Mercury Emissions  
and 40 CFR Part 61, Subpart E Limit

Lee County Resource Recovery Facility  
 PSD Permit Cleanup and Title V Renewal  
 0710119-009-AC, Air Construction Permit, Biosolids Request  
 Comparison of Historic Stack Test Results to 40 CFR Part 61, Subpart E Limit of 3.2 kg/day

Uncontrolled Mercury Emissions												
	Unit 1			Unit 2			Unit 3			Facility Total		
	lb/hr	lb/day	kg/day	lb/hr	lb/day	kg/day	lb/hr	lb/day	kg/day	kg/day	% of 3.2 kg/day limit	
2005	0.0419	1.006	0.456	0.0405	0.972	0.441	NA	NA	NA	0.90	28.0	
2006	0.0365	0.876	0.397	0.0208	0.499	0.226	NA	NA	NA	0.62	19.5	
2007	0.0155	0.372	0.169	0.0203	0.487	0.221	0.0453	1.087	0.493	0.88	27.6	
2008	0.0246	0.590	0.268	0.0168	0.403	0.183	0.0240	0.576	0.261	0.71	22.2	
2009	0.00986	0.237	0.107	0.0120	0.288	0.131	0.0163	0.391	0.177	0.42	13.0	
2010	0.0140	0.336	0.152	0.0160	0.384	0.174	0.0259	0.622	0.282	0.61	19.0	
<b>Permit Limit</b>	<b>0.0271</b>	<b>0.650</b>	<b>0.295</b>	<b>0.0271</b>	<b>0.650</b>	<b>0.295</b>	<b>0.0168</b>	<b>0.403</b>	<b>0.183</b>	<b>0.77</b>	<b>24.2</b>	

## ATTACHMENT B

Contact Memo – Lancaster County

# Telephone Record

Project:	Lee County Title V Renewal	Project No:	27095
Date:	November 8, 2011	Subject:	Impact of Sludge
Call to:	Gary Forster – Senior Manager LCSWMA	Phone No:	717-735-0170
Call from:	M. Kirk Dunbar	Phone No:	763-591-5476

**Discussion, Agreement and/or Action:**

Mr. Forster was contacted by Mr. Dunbar, along with Mr. Lindsey Sampson of Lee County and Mr. Don Castro of HDR, to discuss the co-firing of sewage sludge with MSW at the Lancaster County Waste Management Authority’s MWC facility located in Lancaster County, Pennsylvania. Following is a summary of the information provided by Mr. Forster.

The Lancaster County facility began operation in 1991. In 1995 the facility sent a request to the Pennsylvania Department of Environmental Protection (PaDEP) for approval to burn sewage sludge for six months. PaDEP approved this request without any requirement to conduct emissions testing. Subsequent to the six month period, the facility received approval to burn sewage sludge routinely, again with no requirement to perform air emissions testing. At that time, the only sewage sludge combusted at the facility came from the Elizabethtown waste water treatment plant (WWTP), also the source the facility’s process water. In 2009 the facility began accepting sewage sludge from the Lancaster City WWTP, as well as a number of other various industrial sludge producers.

Facility personnel were initially concerned with the potential for lowered waste Btu value, odors, and increased dusting. However, level of sewage sludge combusted by the facility has never created any of these issues. Further, PaDEP has never inserted any sewage sludge throughput limits in the facility’s air emission permits.

Because the facility routinely co-fires sewage sludge with MSW, at least some historic stack testing has been conducted when the units are co-firing. Facility personnel have not seen any impact on air emissions that were attributable to the co-firing of sewage sludge. Overall, the impact of co-firing sewage sludge with MSW on the facility’s air emissions, as well as facility operations, has not been noticeable.

# ATTACHMENT C

Contact Memo – Huntsville

# Telephone Record

Project:	Lee County Title V Renewal	Project No:	27095
Date:	November 9, 2011	Subject:	Impact of Sludge
Call to:	Doc Holliday – City of Huntsville Woody Wilson - Covanta	Phone No:	Conference Call
Call from:	M. Kirk Dunbar	Phone No:	763-591-5476

**Discussion, Agreement and/or Action:**

Mr. Holliday and Mr. Wilson were contacted by Mr. Dunbar, along with Mr. Lindsey Sampson of Lee County and Mr. Don Castro of HDR, to discuss the co-firing of sewage sludge with MSW at the City of Huntsville Solid Waste Disposal Authority Waste-to-Energy MWC facility located in Huntsville, Alabama. Following is a summary of the information provided by Mr. Holliday and Mr. Wilson.

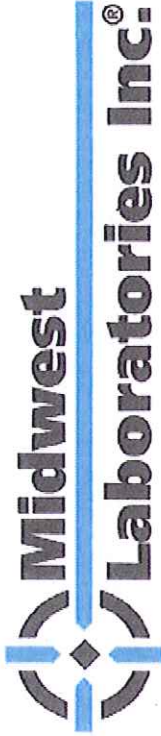
The Huntsville facility started taking sludge when the facility started operations twenty plus years ago. The only limitation on the amount of sludge combusted is in the contract between the Authority and Covanta. The facility’s Title V contains no limits, except a general prohibition on free liquids. Last year the facility burned an estimated 3,360 tons of sludge.

The facility has never been required to conduct stack testing at a certain sludge incineration rate. However, because the facility routinely co-fires sewage sludge with MSW, historic stack testing has been conducted when the units are co-firing. Facility personnel have not seen any impact on air emissions that were attributable to the co-firing of sewage sludge. Overall, the impact of co-firing sewage sludge with MSW on the facility’s air emissions, as well as facility operations, has not been noticeable.

# ATTACHMENT D

## Biosolids Analytical Data





Report Number  
11-264-2055

13611 "B" Street • Omaha, Nebraska 68144-3693 • (402) 334-7770 • FAX (402) 334-9121  
www.midwestlabs.com

REPORT OF ANALYSIS

For: (25398) LEE COUNTY SOLID WASTE DIV  
(239)333-8930

Mail to: LEE COUNTY SOLID WASTE DIV  
LAURA GRAY  
10500 BUCKINGHAM RD 2ND FLOOR  
FT MYERS FL 33905

Date Reported: 09/21/11  
Date Received: 09/07/11  
Date Sampled: 09/06/11

SLUDGE ANALYSIS

Lab number: 1895143 Sample ID: SLUDGE FROM COMPOSTING FACILITY

Analysis	Level Found	Units	Detection Limit	Method	Analyst-Date	Verified-Date
Ash	4.23	%	0.10	AOAC 942.05	mjs-09/14	mjs-09/21
British Thermal Units	850	BTU/lb	20	ASTM D240-87	cmw-09/12	cmw-09/13
Bulk Density (packed)	1.14	g/cc	0.01	WT/VOL	mjs-09/14	mjs-09/21
Calculated Oxygen	0.70	%	0.1	CALCULATION	mjs-09/20	aut-09/20
Higher Heating Value	8.50	kJ/g	0.1	CALCULATION	mjs-09/07	aut-09/07
Hydrogen	7.08	%	0.10	COMBUSTION	mjs-09/21	mjs-09/21
Moisture	86.58	%	0.10	AOAC15E.950.01 100C	mjs-09/14	mjs-09/21
Nitrogen Total (N)	0.68	%	0.01	AOAC 993.13	mjs-09/21	mjs-09/21
Sulfur	0.10	%	0.01	COMBUSTION	mjs-09/14	mjs-09/21
Total Carbon	0.590	%	0.050	C ANALYZER	mjs-09/14	mjs-09/21

Notes:

AOAC - Association of Official Analytical Chemists.

For questions contact

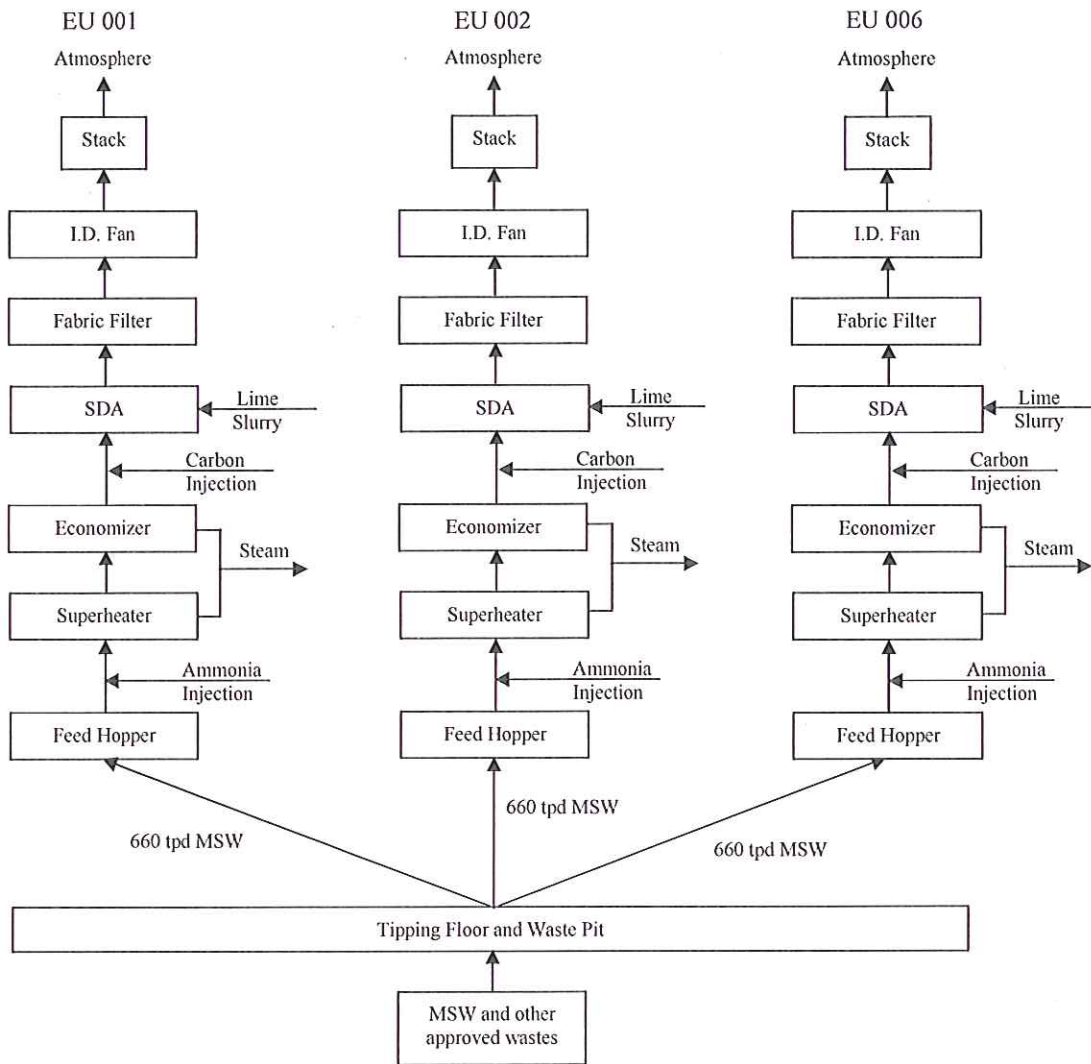
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# ATTACHMENT E

## Biosolids Handling Process Flow Diagram



# ATTACHMENT F

Federal Register Excerpt

Municipal solid waste is defined as a mixture or a single-item waste stream of household, commercial, and/or institutional discards. This would include materials such as paper, yard waste, plastics, leather, rubber, glass, metals, and other combustible and noncombustible materials. The final MSW definition is revised slightly from proposal to make it clear that MSW does not include used motor oil; sewage sludge; wood pallets; construction, renovation, and demolition wastes (including but not limited to railroad

ties and telephone poles); clean wood; industrial process or manufacturing wastes; medical waste; or motor vehicles. Although these wastes are not MSW, they can be intermixed with MSW and can be combusted in MWC plants. The regulations do not prohibit their combustion. The definition of MSW includes RDF, which is municipal solid waste that is shredded (or pelletized) before combustion. Any medical, industrial, or other type of waste combustor plant with capability to combust greater than 35 Mg/day of

MSW and is in compliance with a federally enforceable permit to combust less than 10 Mg/day of MSW is not covered by this standard. Furthermore, cofired MWC plants that combust less than 30 percent MSW (on a calendar quarter basis) are exempt. A summary of the final standards is presented in table 1. In table 1, significant revisions made since proposal are marked with an asterisk (\*) and are discussed in section IV.B.

TABLE 1.—SUMMARY OF STANDARDS FOR NEW MWC'S (SUBPART EB)<sup>a</sup>  
[\* indicates a significant change since proposal and the change is discussed in this preamble]

Applicability

The final standards apply to new MWC units located at plants with capacities to combust greater than 35 Mg/day of residential, commercial, and/or institutional discards. Industrial manufacturing discards are not covered by the standards. Any medical, industrial manufacturing, municipal, or other type of waste combustor plant with capacity to combust greater than 35 Mg/day of MSW and with a federally enforceable permit to combust less than 10 Mg/day of MSW is not covered.\*

Plant Size (MSW combustion capacity)

≤35 Mg/day\* .....  
>Mg/day but ≤225 Mg/day (referred to as small MWC plants) .....  
>225 Mg/day (referred to as large MWC plants) .....

Requirement.

Not covered by standards.  
Subject to provisions listed below.  
Subject to provisions listed below.

Good Combustion Practices

- Applies to large and small MWC plants.
- A site-specific operator training manual is required to be developed and made available for MWC personnel.
- The EPA or State MWC operator training course must be completed by the MWC chief facility operator, shift supervisors, and control room operators.
- The ASME (or State-equivalent) operator certification must be obtained by the MWC chief facility operator (mandatory), shift supervisors (mandatory), and control room operators (optional).\*
- The MWC load level is required to be measured and not to exceed 110 percent of the maximum load level measured during the most recent dioxin/furan performance test.
- The PM control device inlet flue gas temperature is required to be measured and not to exceed the temperature 17 °C above the maximum temperature measured during the most recent dioxin/furan performance test.
- The CO level is required to be measured using CEMS, and the concentration in the flue gas is required not to exceed the following:

MWC type	CO level	Averaging time (hours)
Modular starved-air and excess-air .....	50 ppmv .....	4
Mass burn waterwall and refractory .....	100 ppmv .....	4
Mass burn rotary refractory .....	100 ppmv .....	4
Fluidized-bed combustion .....	100 ppmv .....	4
Pulverized coal/RDF mixed fuel-fired .....	150 ppmv* .....	4
Spreader stoker coal/RDF mixed fuel-fired .....	150 ppmv* .....	24
RDF stoker .....	150 ppmv .....	24
Mass burn rotary waterwall .....	100 ppmv .....	24
MWC Organic Emissions (measured as total mass dioxins/furans):		
• Dioxins/furans (performance test by EPA Reference Method 23)		
Large and small MWC plants .....	13 ng/dscm total mass (mandatory) or 7 ng/dscm total mass (optional to qualify for less frequent testing). <sup>a,b</sup>	